90-11-2-449B

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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

JUDGMENT IN A CIVIL

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State of Rhode Island,
Department of Environmental
Management

V. CIVIL ACTION NO. 97-0076T

Landfill & Resource Recovery
Inc.

Unted States of America

v CIVIL ACTION NO. 97-0078T

Landfill & Resource Recover, Inc.

DECISION OF THE COURT:

IT IS ORDERED AND ADJUDGED:

Judgment is entered in this case pursuant to the Consent Decree granted by order of Ernest C. Torres, US District Judge on October 3, 1997.

DATE: October 6, 1997

James E. Webb
JAMES E. WEBB
Deputy clerk

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA and STATE OF RHODE ISLAND, Plaintiffs, v. LANDFILL & RESOURCE RECOVERY INC., et al., Defendants.	CIVIL ACTION NO.

SETTLEMENT AGREEMENT AND CONSENT DECREE

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I. BACKGROUND

A. The United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint in this matter pursuant to Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606, 9607.

B. The United States in its complaint seeks, inter alia: (1) reimbursement of costs incurred and to be incurred by EPA and the Department of Justice for response actions at the Landfill & Resource Recovery Superfund Site in North Smithfield, Rhode Island, together with accrued interest; (2) performance of response work by the Defendants at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP"); and (3) payment in satisfaction of the United States' claim for civil penalties, pursuant to CERCLA Section 106(b)(1), 42 U.S.C. § 9606(b)(1), for the Performing Settling Defendants' and Owner Settling Defendants alleged non-compliance with the Unilateral Administrative Order (as hereinafter defined).

C. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State of Rhode Island (the "State") on August 4, 1993, of negotiations with potentially responsible parties ("PRPs") regarding the remedial design and remedial action for the Site, and EPA has provided the State with an opportunity to participate in such

negotiations and to be a party to this Settlement Agreement and Consent Decree ("Decree").

D. The State of Rhode Island has also filed a complaint against the defendants in this Court alleging that the defendants are liable to the State under Section 107 of CERCLA, 42 U.S.C. § 9607, and R.I.G.L. Chapters 23-19.1, 42-17.1, 23-23, and 23-18.9 for (1) the State's claim for Past and Future response costs, (2) the State's claim for contempt penalties pursuant to R.I.G.L Chapters 23-18.9 and the inherent powers of the Court for Landfill & Resource Recovery Inc.'s violation of the Court Order and Consent Agreement in Landfill & Resource Recovery, Inc. v. Rhode Island Department of Environmental Management, C.A. No. 81-4091 (R.I. Sup. Ct.); and (3) compensation for damage to Natural Resources under the trusteeship of the Director of the Rhode Island Department of Environmental Management ("RIDEM") pursuant to Section 107 of CERCLA and R.I.G.L. 46-13.1.

E. In accordance with Section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the National Oceanic and Atmospheric Administration and the United States Department of the Interior on January 26, 1994, of negotiations with PRPs regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal trusteeship and encouraged the trustees to participate in the negotiation of this Settlement Agreement and Consent Decree.

F. The Defendants that have entered into this Settlement Agreement and Consent Decree ("Settling Defendants") do not admit

any liability to the Plaintiffs arising out of the transactions or occurrences alleged in the complaints. Settling Defendants do not admit any of the representations or recitations of fact in this Background section.

G. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 8, 1983, 48 Fed. Reg. 40671.

H. In response to a release or a substantial threat of a release of a hazardous substance(s) at or from the Site, EPA commenced in May 1986, a Remedial Investigation and Feasibility Study ("RI/FS") for the Site pursuant to 40 C.F.R. § 300.430.

I. EPA issued a Remedial Investigation ("RI") Report in June 1988 and EPA also issued a Feasibility Study ("FS") Report in June 1988.

J. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the issuance of the FS Report and of the proposed plan for remedial action on July 11, 1988, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the Regional Administrator based the selection of the response action.

K. The decision by EPA on the remedial action to be implemented at the Site is embodied in the Record of Decision

("ROD"), executed on September 29, 1988, on which the State had a reasonable opportunity to review and comment and on which the State had given concurrence, by letter dated September 27, 1988, which was withdrawn pursuant to an Order of the Superior Court of the State of Rhode Island, dated November 22, 1988. By letter dated November 22, 1988, the State stated its concurrence only with the portions of the ROD which were identical to the remedy agreed upon by RIDEM and Landfill & Resource Recovery, Inc. in a Court Order and Consent Agreement dated July 13, 1983, in Landfill & Resource Recovery, Inc. v. Rhode Island Department of Environmental Management, C.A. No. 81-4091 (R.I. Sup. Ct.). The Settling Defendants have constructed the remedy set forth in the final 100% Design for the remedy at the Site approved by EPA pursuant to the Unilateral Administrative Order ("UAO"). Landfill & Resource Recovery, Inc. has acknowledged that Landfill & Resource Recovery, Inc. is authorized to perform the remedy set forth in the final 100% Design pursuant to and consistent with the State Court Order. The ROD includes a responsiveness summary to the public comments. Notice of the final plan was published in accordance with Section 117(b) of CERCLA.

L. The ROD was modified by an Explanation of Significant Differences ("ESD"), executed on March 8, 1991. The ROD was further modified by an ESD executed on September 16, 1996.

M. By letter dated February 26, 1990, EPA issued Special Notice pursuant to Section 122(e) of CERCLA to 87 PRPs. By letter dated March 16, 1990, EPA issued Special Notice to 19

additional PRPs. Certain of the Settling Defendants were among the parties to which EPA issued Special Notice. Pursuant to CERCLA Section 122(e), EPA engaged in settlement negotiations with these PRPs in 1990 to obtain performance of the Remedial Action and recovery of response costs, but the negotiations did not result in settlement between any of the parties.

N. Pursuant to Sections 104(e) and 106(a) of CERCLA, EPA Region I issued a Unilateral Administrative Order (U.S. EPA Docket No. I-90-1085) on June 29, 1990, for performance of response actions at the Site. The Unilateral Administrative Order was made effective against fourteen PRPs including certain of the Settling Defendants, on September 19, 1990. The Unilateral Administrative Order was modified by a First Modification to Scope of Work and Administrative Order on October 19, 1990, which modified the Scope of Work appended to the Unilateral Administrative Order and made such Order effective against four additional PRPs, including certain of the Settling Defendants. The Unilateral Administrative Order was further modified by a Second Modification to Scope of Work and Administrative Order on January 30, 1992, which deleted ten PRPs from the Unilateral Administrative Order. The PRPs that remained subject to the Unilateral Administrative Order are collectively the "Respondents." Certain of the Respondents have been performing remedial activities pursuant to the Unilateral Administrative Order since the effective dates listed above. The United States, on behalf of the Administrator of EPA alleges that

the Respondents did not fully or timely perform the remedial activities required by the Unilateral Administrative Order. Settling Defendants deny these allegations.

O. Certain of the Respondents to the UAO engaged GZA GeoEnvironmental, Inc. ("GZA") as its Supervising Contractor to supervise and perform Respondents' obligations for remedial design required under the UAO from November 30, 1990 to October 10, 1991. On September 16, 1992, certain of the Respondents filed suit against GZA for breach of contract alleging that GZA did not perform the Remedial Design work required by the Unilateral Administrative Order Scope of Work and GZA's contract with the Respondents. The Court granted summary judgment in favor of those Respondents by Memorandum and Order on Plaintiffs' motion for Summary Judgment, issued April 15, 1994, finding that GZA breached its contract with those Respondents. (Avnet, Inc. v. GZA GeoEnvironmental, Inc., C.A. 92-6021E (Mass. Sup. Ct.). It is those Respondents' position that: all alleged violations of the Unilateral Administrative Order were the result of the actions and/or inactions of GZA in breach of its contract with the Respondents; that the actions/inactions were unknown to Respondents and contrary to the express directions of Respondents; that Respondents are not legally responsible for GZA's actions/inactions; and that at no time did Respondents willfully violate or fail or refuse to comply with any lawful order.

P. On January 30, 1992, EPA entered into a de minimis settlement pursuant to Section 122(g) of CERCLA with 46 PRPs, each of which, according to EPA, disposed of less than 1% of the hazardous substances at the Site. These parties had participated in the unsuccessful Special Notice negotiations referenced in Paragraph M above.

Q. On July 25, 1991, prior to the completion of the de minimis settlement, certain of the Settling Defendants, many of whom are also Respondents to the UAO, filed an action (captioned Avnet, Inc. v. Amtel, Inc., C.A. No. 91-0383-B (D.R.I.)) against 48 parties, (some of whom later entered into the de minimis settlement agreement with EPA described in Paragraph P above), alleging that the 48 parties were liable to the Settling Defendants for response costs at the Site. By order dated October 30, 1992, the Court granted summary judgment in favor of those parties who had entered into the settlement described in Paragraph P. On February 2, 1993, the plaintiffs in Avnet v. Amtel filed suit against the United States (captioned Suffolk Services, Inc. v. United States, C.A. No. 93-0064B (D.R.I.)), pursuant to the Administrative Procedures Act ("APA"), challenging the validity of the de minimis settlement referenced above. By order of the Court, the plaintiffs in Suffolk Services (certain of the Settling Defendants) filed an amended complaint in Avnet v. Amtel, and consolidated their APA claims brought in Suffolk Services as Counts II and III of Avnet v. Amtel. Hereinafter, the cases are referred to as Avnet v. Amtel. On

May 17, 1994, Magistrate Judge Timothy Boudewyns filed a Report and Recommendation with the Court recommending dismissal of Counts II and III of Avnet v. Amtel (the APA claims) on jurisdictional grounds. On November 29, 1994, Judge Boyle adopted the Magistrate's Report and Recommendation, and issued a final judgment on April 3, 1995. On June 2, 1995, certain of the Settling Defendants filed a notice of appeal of this judgment. Avnet, Inc. v. Amtel, Inc., No. 95-1619 (1st Cir.). The appeal is pending.

R. In 1981, Landfill & Resource Recovery, Inc. commenced litigation against RIDEM concerning the closure of the Landfill pursuant to the Rhode Island solid waste management laws and regulations (Landfill & Resource Recovery, Inc. v. RIDEM, C.A. 81-4091 (R.I. Sup. Ct.)). This action resulted in a Court Order and Consent Agreement dated July 13, 1983, which was followed by a court order dated November 22, 1988, and an Agreement in Furtherance of Court Order of July 13, 1983, dated April 10, 1990 (collectively, "the State Court Order"). On June 28, 1994, RIDEM filed a Petition for Contempt and Motion to Modify the State Court Order. That motion is pending.

S. Based on the information presently available to EPA and the State, EPA and the State believe that the Work will be properly and promptly conducted by the Performing Settling Defendants and Owner Settling Defendants if conducted in accordance with the requirements of this Settlement Agreement and Consent Decree and its appendices.

T. Solely for the purposes of Section 113(j) of CERCLA, the Remedial Action selected by the ROD and the Work to be performed by the Performing Settling Defendants and Owner Settling Defendants shall constitute a response action taken or ordered by the President.

U. Upon approval and entry of this Settlement Agreement and Consent Decree by the Court, this Settlement Agreement and Consent Decree shall constitute a final judgment between and among the United States, the State, and Settling Defendants. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54(b).

V. The Parties recognize, and the Court by entering this Settlement Agreement and Consent Decree finds, that this Settlement Agreement and Consent Decree has been negotiated by the Parties in good faith, that implementation of this Settlement Agreement and Consent Decree will expedite the cleanup at the Site and will avoid prolonged and complicated litigation between the Parties, and that this Settlement Agreement and Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal

jurisdiction over the Settling Defendants. For the purposes of this Settlement Agreement and Consent Decree and the underlying complaints, Settling Defendants waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Settling Defendants shall not challenge the terms of this Settlement Agreement and Consent Decree or this Court's jurisdiction to enter and enforce this Settlement Agreement and Consent Decree. The Complaint states claims against Settling Defendants upon which, if proved, relief may be granted.

III. PARTIES BOUND

2. This Settlement Agreement and Consent Decree applies to and is binding upon the United States on behalf of EPA, the Secretary of the Department of the Interior ("DOI"), and the National Oceanic and Atmospheric Administration ("NOAA"), and the State, and upon Settling Defendants and their heirs, successors and assigns. Any change in ownership or corporate status of a Settling Defendant including, but not limited to, any transfer of assets or real or personal property shall in no way alter such Settling Defendants' responsibilities under this Settlement Agreement and Consent Decree.

3. Performing Settling Defendants shall provide a copy of this Settlement Agreement and Consent Decree to each contractor hired to perform the Work (as defined below) required by this Settlement Agreement and Consent Decree and to each person representing any Performing Settling Defendant with respect to the Site or the Work and shall condition all contracts entered

into hereunder upon performance of the Work in conformity with the terms of this Settlement Agreement and Consent Decree. Performing Settling Defendants or their contractors shall provide written notice of the Settlement Agreement and Consent Decree to all subcontractors hired to perform any portion of the Work required by this Settlement Agreement and Consent Decree. Performing Settling Defendants shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Settlement Agreement and Consent Decree. With regard to the activities undertaken pursuant to this Settlement Agreement and Consent Decree, each contractor and subcontractor shall be deemed to be in a contractual relationship with the Performing Settling Defendants within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

IV. DEFINITIONS

4. Unless otherwise expressly provided herein, terms used in this Settlement Agreement and Consent Decree which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement and Consent Decree or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

"Cannons Defendants" shall mean J. Robert Cannon and J. Scott Cannon.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

"Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Settlement Agreement and Consent Decree, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

"Funding Entities" shall mean Fireman's Fund Insurance Company, American Policyholders Insurance Company, and Reliance Insurance Company.

"Future Response Costs" shall mean all costs, other than Oversight Costs, including, but not limited to, direct and indirect costs (as such indirect costs may from time to time be calculated), that the United States and the State incur after lodging of this Settlement Agreement and Consent Decree for developing or modifying plans, reports or other items required pursuant to this Settlement Agreement and Consent Decree, or otherwise implementing, or enforcing this Settlement Agreement and Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs

incurred pursuant to Sections VII, VIII, X (including, but not limited to, attorneys fees and the amount of just compensation), XVI, XVII, and Paragraph 93 of Section XXIII (Covenants Not to Sue by Plaintiffs). Future Response Costs shall also include all non-contractor costs, including direct and indirect costs, incurred by the United States and the State in connection with the Site between July 1, 1996, and the lodging of this Settlement Agreement and Consent Decree, including, but not limited to, non-contractor costs incurred by the United States in reviewing or developing plans, reports, and other items pursuant to the Unilateral Administrative Order (as hereinafter defined), verifying the work performed pursuant to the Unilateral Administrative Order (including, without limitation, overseeing any on-site activities), or otherwise implementing, overseeing, or enforcing the Unilateral Administrative Order, including, but not limited to, payroll costs, travel costs, and laboratory costs.

"Institutional Controls" shall mean deed restrictions and other requirements and controls developed for one or more of the following purposes: 1) to restrict the use of groundwater at the Site; 2) to limit human or animal exposure to Waste Material at or emanating from the Site; 3) to ensure non-interference with the performance of the Work; and 4) to ensure the integrity and effectiveness of the Work.

"Interest", in accordance with 42 U.S.C. § 9607(a), shall mean interest at the rate specified for interest on investments of the

Hazardous Substance Superfund established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507. In calculating the Interest, EPA may compound on a daily, monthly or annual basis.

"Landfill" shall mean the landfill covering approximately 28 acres of a 36-acre parcel of land owned by Landfill & Resource Recovery, Inc., located on Oxford Turnpike in North Smithfield, Rhode Island.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including, but not limited to, any amendments thereto.

"Natural Resources" shall have the meaning provided in Section 101(16) of CERCLA, 42 U.S.C. § 9601(16), and as provided in R.I.G.L. Chapter 23-19.1.

"Natural Resource Damages" means damages recoverable under Section 107 of CERCLA for injury to, destruction of, or loss of any and all Natural Resources of the L&RR Site, including the reasonable costs of assessing such injury, destruction or loss, or damages recoverable under R.I.G.L. 23-19.1 et seq., and under the common law of the State of Rhode Island.

"Operation and Maintenance" or "O & M" shall mean all activities required to maintain the effectiveness of the Remedial Action as required under the Operation and Maintenance Plan and/or Post Closure Operation and Maintenance Plan approved or developed by EPA pursuant to the UAO or modified and approved

pursuant to this Settlement Agreement and Consent Decree and the Statement of Work ("SOW").

"Oversight Costs" shall mean all costs, including but not limited to, direct and indirect costs, that the United States and the State incur after lodging of this Settlement Agreement and Consent Decree in reviewing plans, reports and other items for O&M or other Work pursuant to this Settlement Agreement and Consent Decree, verifying the O&M or other Work activities (including, without limitation, overseeing any on-site activities), or otherwise overseeing the O&M or other Work activities performed pursuant to this Settlement Agreement and Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs. Oversight Costs do not include Future Response Costs as defined above.

"Owner Settling Defendants" shall mean the Settling Defendants listed in Appendix E.

"Paragraph" shall mean a portion of this Settlement Agreement and Consent Decree identified by an arabic numeral or an upper case letter.

"Parties" shall mean the United States, the State of Rhode Island, the Funding Entities and the Settling Defendants.

"Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs and interest, that the United States and the State incurred with regard to the Site prior to lodging of this Settlement Agreement and Consent Decree, including, but not limited to, payroll costs, contractor costs,

travel costs, and laboratory costs. Except that Past Response Costs shall not include all non-contractor costs the United States has incurred from July 1, 1996, until the lodging of this Settlement Agreement and Consent Decree, in reviewing or developing plans, reports, and other items pursuant to the Unilateral Administrative Order (as hereinafter defined), verifying the work performed under the UAO (including, without limitation, overseeing on-site activities), or otherwise implementing, overseeing, or enforcing the UAO, including, but not limited to, payroll costs, travel costs, and laboratory costs.

"Performance Standards" shall mean those cleanup standards, standards of control, cleanup levels, treatment standards, institutional controls, and other substantive requirements, criteria or limitations set forth in the ROD or Paragraph 14 of this Settlement Agreement and Consent Decree or the SOW.

"Performing Settling Defendants" shall mean those Parties identified in Appendix D (Performing Settling Defendants).

"Plaintiffs" shall mean the United States and the State of Rhode Island.

"RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 et seq. (also known as the Resource Conservation and Recovery Act).

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on September 29, 1988, by the Regional Administrator, EPA Region I, all attachments

thereto, and as modified by the Explanation of Significant Differences, signed on March 8, 1991, by the Regional Administrator, EPA Region I and as modified by the Explanation of Significant Differences signed on September 16, 1996.

"Remedial Action" shall mean those activities, except for Operation and Maintenance, undertaken and to be undertaken by the Performing Settling Defendants and/or Owner Settling Defendants to implement the ROD in accordance with final plans and specifications submitted by the Performing Settling Defendants pursuant to the Remedial Design Work Plan and approved by EPA.

"Remedial Design/Remedial Action Work Plan" or "RD/RA Work Plan" shall mean the document submitted by the Performing Settling Defendants pursuant to Paragraph 13.a of this Settlement Agreement and Consent Decree.

"Remedial Design" shall mean those activities undertaken and to be undertaken by the Performing Settling Defendants to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design/Remedial Action Work Plan.

"RIDEM" shall mean the Rhode Island Department of Environmental Management and any successor departments or agencies of the State.

"Section" shall mean a portion of this Settlement Agreement and Consent Decree identified by a roman numeral.

"Settlement Agreement and Consent Decree" shall mean this Decree and all appendices attached hereto (listed in Section

XXXI). In the event of conflict between this Decree and any appendix, this Decree shall control.

"Settling Defendants" shall mean those Parties identified in Appendices D (Performing Settling Defendants), E (Owner Settling Defendants) and the Cannons Defendants.

"Site" shall mean the Landfill & Resource Recovery Superfund site, located on Oxford Turnpike, northwest of Pound Hill Road in North Smithfield, Providence County, Rhode Island and depicted generally on the map attached as Appendix C.

"State" shall mean the State of Rhode Island.

"Statement of Work" or "SOW" shall mean the statement of work for implementation of the Remedial Design, Remedial Action, and Operation and Maintenance at the Site, as set forth in Appendix B to this Settlement Agreement and Consent Decree and any modifications made in accordance with this Settlement Agreement and Consent Decree.

"Supervising Contractor" shall mean the principal contractor retained by the Settling Defendants to supervise and direct the implementation of the Work under this Settlement Agreement and Consent Decree.

"Unilateral Administrative Order" or "UAO" shall mean the Administrative Order, Docket No. I-90-1085, issued by the Regional Administrator, EPA Region I, on June 29, 1990, and as modified by First Modification to Scope of Work and Administrative Order, issued by the Regional Administrator, EPA Region I, on October 19, 1990, and by Second Modification to

Administrative Order, issued by the Regional Administrator, EPA Region I, on January 30, 1992. All references to the Unilateral Administrative Order or UAO shall mean the Unilateral Administrative Order as modified, unless the context indicates otherwise.

"United States" shall mean the United States of America.

"Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any "hazardous waste" under Section 1004(5) of RCRA, 42 U.S.C. § 6903(5); and (3) any "hazardous waste" under R.I.G.L. Chapter 23-19.1.

"Work" shall mean all activities Performing Settling Defendants and Owner Settling Defendants are required to perform under this Settlement Agreement and Consent Decree, including, but not limited to, the remaining components of the Remedial Action not completed pursuant to the UAO, Operation and Maintenance and any additional response actions; provided however that "Work" shall not include those activities required by Section XXVII (Retention of Records).

V. GENERAL PROVISIONS

5. Commitments by Settling Defendants

a. Performing Settling Defendants and Owner Settling Defendants shall finance and perform the Work in accordance with this Settlement Agreement and Consent Decree and all plans, standards, specifications, and schedules set forth in or developed or approved by EPA pursuant to this Settlement

Agreement and Consent Decree. Performing Settling Defendants and Owner Settling Defendants shall also reimburse the United States and the State for Past Response Costs, Oversight Costs and Future Response Costs and make the other payments and perform the other obligations required by this Settlement Agreement and Consent Decree. Performing Settling Defendants and Owner Settling Defendants shall also compensate the United States and the State for damage to Natural Resources under the trusteeship of the Secretary of the Interior, NOAA and the Director of RIDEM as provided in this Settlement Agreement and Consent Decree. Performing Settling Defendants shall dismiss with prejudice all claims brought in the civil action captioned Avnet v. Amtel, C.A. No. 91-0383B (D.R.I.), and shall dismiss with prejudice the appeal of such civil action.

b. The obligations of Performing Settling Defendants and Owner Settling Defendants to finance and perform the Work and to pay amounts owed the United States and the State under this Settlement Agreement and Consent Decree are joint and several. All obligations of the Performing Settling Defendants under this Settlement Agreement and Consent Decree shall be deemed obligations of the Owner Settling Defendants, who shall be jointly and severally liable for their performance. Except as specifically set forth in Paragraph 8 and Section X, in the event of the failure of any one or more Performing Settling Defendants and/or Owner Settling Defendants to implement the requirements of this Settlement Agreement and Consent Decree, the remaining

Performing Settling Defendants and/or Owner Settling Defendants shall complete all such requirements.

c. The Cannons Defendants have reimbursed the United States for Past and Future Response Costs as provided in Paragraph 52.b. of this Settlement Agreement and Consent Decree. The Cannons Defendants represent and the Plaintiffs understand that entities other than the Cannons Defendants ("Funding Entities") have made the monetary payments referenced in Paragraph 52.b. of this Settlement Agreement and Consent Decree. Settlement with the Cannons Defendants is based on their representations concerning their financial condition.

6. Compliance With Applicable Law

All activities undertaken by Settling Defendants pursuant to this Settlement Agreement and Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Defendants must also comply with all applicable or relevant and appropriate requirements of all federal and state environmental laws as set forth in the ROD and the SOW. The activities conducted pursuant to this Settlement Agreement and Consent Decree, if approved by EPA, shall be considered to be consistent with the NCP.

7. Permits

a. As provided in Section 121(e) of CERCLA and § 300.5 of the NCP, no permit shall be required for any portion of the Work conducted entirely on-site. Where any portion of the Work requires a federal or state permit or approval, Performing

Settling Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. The Performing Settling Defendants may seek relief under the provisions of Section XX (Force Majeure) of this Settlement Agreement and Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit required for the Work if the Performing Settling Defendants submitted timely, complete and adequate applications and took all other actions necessary to obtain all such permits or approvals.

c. All hazardous waste, as defined under Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), which Performing Settling Defendants generate in performance of the Work shall be managed by the Performing Settling Defendants in accordance with the NCP, including but not limited to the RCRA requirements relating to the use and signing of manifests. Performing Settling Defendants or their representatives shall be listed as the generators on all manifested shipments of hazardous waste generated during performance of the Work.

d. This Settlement Agreement and Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

8. Notice of Obligations to Successors-in-Title

a. With respect to any property owned or controlled by any of the Owner Settling Defendants that is located within the

Site, within 15 days after the entry of this Settlement Agreement and Consent Decree, each such Owner Settling Defendant shall file a notice with the Recorder's Office or Registry of Deeds or other appropriate office, Providence County, State of Rhode Island in substantially the form attached as Appendix I, which shall provide notice to all successors-in-title that the property is located within the Site, that EPA selected a remedy for the Site, that a Consent Decree requiring the implementation of the remaining portions of the remedy by potentially responsible parties was approved by the United States District Court for the District of Rhode Island in United States v. Landfill & Resource Recovery Inc., and that the property is subject to access and institutional controls. Owner Settling Defendants shall give EPA and the State a certified copy of the recorded notice within ten days of recording the notice at the addresses set forth in Section XXVIII (Notices and Submissions).

b. The obligations of each Owner Settling Defendant with respect to the provision of access under Section X (Access and Institutional Controls) and the implementation of institutional controls under Section X shall be binding upon any and all such Owner Settling Defendants and any and all persons who subsequently acquire any interest or portion of the Site (hereinafter "Successors-in-Title"). Each subsequent instrument conveying an interest to any such property included in the Site shall reference the recorded location of such notices and covenants applicable to the property.

c. Any Owner Settling Defendant and any Successor-in-Title shall, at least 30 days prior to the conveyance of any interest in property located within the Site including, but not limited to, fee interests, leasehold interests, and mortgage interests, give written notice of this Settlement Agreement and Consent Decree and any easements that have been filed with respect to the property pursuant to Section X (Access and Institutional Controls) to the grantee and written notice to EPA, the State, and the Performing Settling Defendants of the proposed conveyance, including the name and address of the grantee, and the date on which notice of the Settlement Agreement and Consent Decree and easements was given to the grantee. In the event of any such conveyance, the Owner Settling Defendants' and Performing Settling Defendants' obligations under this Settlement Agreement and Consent Decree, including their obligations to provide or secure institutional controls and access pursuant to Section X, shall continue to be met by the Owner Settling Defendants and the Performing Settling Defendants. In addition, if the United States and the State approve, the grantee may perform some or all of the Work under this Settlement Agreement and Consent Decree. In no event shall the conveyance of an interest in property that includes, or is a portion of, the Site release or otherwise affect the liability of the Owner Settling Defendants and the Performing Settling Defendants to comply with the Settlement Agreement and Consent Decree.

VI. PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS

9. Except for the activites described below in subparagraphs (a)(4), (a)(5), (b) and (c), the Performing Settling Defendants have performed the response actions for the Site as described in the Record of Decision ("ROD") attached hereto as Appendix A. The Performing Settlng Defendants and Owner Settling Defendants shall perform the Work as described in the Statement of Work ("SOW") (which the Parties agree is consistent with the ROD), attached hereto as Appendix B; and any modifications thereto. The ROD, the SOW, and all modifications to the SOW, are hereby incorporated by reference and made a part of this Decree. The Work shall be performed in accordance with all the provisions of this Decree, the SOW, any modifications to the SOW, and all design specifications, Work Plans or other plans or schedules attached to or approved pursuant to the SOW. The major components of the Remedial Action for the Site are as follows:

a. (1) Upgrading the Landfill closure by extending the steep side slopes in the uncovered northeast area of the Landfill, installing a synthetic cover in this area; (2) establishing a cover thickness of at least twenty-four (24) inches and vegetation over the entire Landfill; (3) upgrading the surface water runoff management system; (4) ensuring Site security by installing and maintaining a fence around the entire Site; and (5) establishing institutional controls.

b. Collecting and treating the Landfill gas using a thermal destruction technology so that volatile organic compound concentrations in ambient air are reduced and risks to public health and the environment are minimized.

c. Post-closure inspection, operation and maintenance of the Landfill cap, gas collection and treatment system, and other components of the remedy; long-term monitoring of the groundwater and surface water, Landfill gas emissions and migration, and ambient air to ensure that the remedy remains protective.

10. Upon entry of this Settlement Agreement and Consent Decree by the Court, the UAO shall cease to have independent legal significance and will be superseded by this Settlement Agreement and Consent Decree, which shall govern the performance of the Work by Settling Defendants. Except as provided herein, all Work Plans, design specifications or other plans, reports, or schedules, as approved by EPA pursuant to the UAO and the UAO SOW shall be incorporated into and shall be enforceable under this Settlement Agreement and Consent Decree. Upon lodging of this Settlement Agreement and Consent Decree by the Court, the Performing Settling Defendants and Owner Settling Defendants shall immediately commence performance of the Work in accordance with the provisions of this Settlement Agreement and Consent Decree, the SOW, any modifications to the SOW, and all design specifications, Work Plans or other plans or schedules attached to or approved pursuant to the SOW or approved by EPA pursuant to the UAO and the UAO SOW and incorporated herein and enforceable hereunder. Upon the effective date of this Settlement Agreement and Consent Decree, all Future Response Costs incurred from July 1, 1996 to the lodging of the Settlement Agreement and Consent Decree, and Oversight Costs incurred after lodging of the Settlement Agreement and Consent Decree, shall be reimbursed in accordance with Section XVIII and Appendix G.

11. Plaintiffs acknowledge that Performing Settling Defendants have completed the Remedial Design pursuant to the Unilateral Administrative Order.

12. a. All Work to be performed by the Performing Settling Defendants and Owner Settling Defendants pursuant to this Settlement Agreement and Consent Decree shall be under the direction and supervision of a qualified contractor. If the Performing Settling Defendants and/or Owner Settling Defendants do not continue to employ de maximis, inc., as the Supervising Contractor, and Miller Engineering and Testing, Inc., Smith Environmental, O & M, Inc., IEA, Inc., Trillium, Inc., RECON, Inc., CW Miller, and 21st Century Environmental Management as contractors or subcontractors, or if the Performing Settling Defendants and/or Owner Settling Defendants intend to employ any other Supervising Contractor or any other contractors or subcontractors, then within 20 days after determining that a different Supervising Contractor or contractor or subcontractor will be employed, the Performing Settling Defendants and Owner Settling Defendants shall notify EPA and the State in writing of the name, title and qualifications of the Supervising Contractor and the names of any other contractors and/or subcontractors proposed to be used in carrying out the Work to be performed pursuant to this Settlement Agreement and Consent Decree. Selection of any such Supervising contractor or any other contractor and/or subcontractor (collectively "contractors") shall be subject to disapproval by EPA. If EPA disapproves of the selection of any contractor, the Performing Settling Defendants and Owner Settling Defendants shall submit a list of alternative contractors, including their qualifications, to EPA

and the State within 21 days of receipt of the disapproval of the contractor previously proposed. Upon notice of EPA's response the Performing Settling Defendants and Owner Settling Defendants may select any contractor from that list not disapproved by EPA and shall notify EPA and the State of the name of the selected contractor within five (5) working days following receipt of notice from EPA.

b. All Work to be performed by the Performing Settling Defendants and Owner Settling Defendants pursuant to this Settlement Agreement and Consent Decree and under the direction and supervision of the Supervising Contractor. EPA may require that Work under this Settlement Agreement and Consent Decree be subject to quality assurance by an independent, qualified contractor if EPA determines that the Work fails to meet the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services. Any such determination shall be subject to dispute resolution pursuant to Section XXI (Dispute Resolution). Within 20 days after notification by EPA that Work pursuant to this Settlement Agreement and Consent Decree shall be subject to quality control by an independent, qualified contractor (unless dispute resolution has been timely sought), the Performing Settling Defendants and Owner Settling Defendants shall notify EPA and the State, in writing, of the name, title, and qualifications of the Independent Quality Assurance Team (IQAT) that shall be responsible for evaluating, collecting, examining and/or testing

various data, materials, procedures, and equipment during the designated Work. The IQAT shall be retained by the Performing Settling Defendants and shall be from an independent consulting, testing and/or inspection organization. The IQAT shall function to (a) direct and perform tests for quality assurance inspection activities; (b) verify that O & M and other Work is implemented; (c) perform independent on-site inspections of the Work and evaluations of the data to assess compliance with project standards; (d) verify that equipment and testing procedures meet the test requirements; and (e) report to the Performing Settling Defendants, Owner Settling Defendants EPA and the State the results of all inspections.

13. The following Work shall be performed by Performing Settling Defendants and Owner Settling Defendants:

a. In accordance with the time periods specified in the SOW, Performing Settling Defendants submitted for review, modification and/or approval by EPA, after opportunity for review and comment by the State, work plans for Remedial Design/Remedial Action (RD/RA Work Plan), 100% Design, Remedial Action and Implementation (RAI Plan), Operation and Maintenance (O & M Plan) and Post Closure Operation and Maintenance ("Post Closure O & M Plan"). EPA and the State acknowledge that the Performing Settling Defendants have completed the RD/RA Work Plan, 100% Design, RAI Plan, the O & M Plan, and the Post Closure O & M Plan and such Work Plans were approved by EPA in accordance with the terms of the UAO. As of the effective date of this

Settlement Agreement and Consent Decree, the RD/RA Work Plan, the 100% Design, the RAI Plan, the O & M Plan, and the Post Closure O & M Plan, as approved by EPA, shall be enforceable under this Settlement Agreement and Consent Decree.

b. Performing Settling Defendants have begun performing and shall complete performing the Work detailed in all EPA approved work plans, plans and documents. All work plans, plans and documents and any submissions required thereunder or under this Settlement Agreement and Consent Decree shall be enforceable under this Settlement Agreement and Consent Decree. All response activities shall be conducted in accordance with the National Contingency Plan, the EPA Superfund Remedial Design and Remedial Action Guidance (OSWER Directive 9355.0-4A), any additional guidance provided by EPA, and the requirements of this Settlement Agreement and Consent Decree, including the standards, specifications and schedules contained in the SOW and all approved plans and documents. To the extent that EPA provides any additional guidance documents to Performing Settling Defendants, these additional guidance documents shall only be applicable to future obligations.

c. The Post Closure O & M Plan was approved by EPA and supersedes the O & M Plan.

d. Performing Settling Defendants and Owner Settling Defendants shall implement the Work detailed in the Post Closure O&M Plan and the SOW. The Post Closure O&M Plan, the SOW and any submissions required thereunder or under this Settlement

Agreement and Consent Decree shall be enforceable under this Settlement Agreement and Consent Decree. All response activities shall be conducted in accordance with the National Contingency Plan, the EPA Superfund Remedial Design and Remedial Action guidance (OSWER Directive 9355.0-4A), and any additional guidance provided by EPA, and the requirements of this Settlement Agreement and Consent Decree, including the standards, specifications and schedules contained in the SOW. To the extent that EPA provides any additional guidance documents to Performing Settling Defendants and/or Owner Settling Defendants, these additional guidance documents shall only be applicable to future obligations.

14. The Work performed by Performing Settling Defendants and Owner Settling Defendants pursuant to this Settlement Agreement and Consent Decree must, at a minimum, achieve the following Performance Standards:

a. Cleanup Standards: The target cleanup level for the gaseous emissions are as dictated by the Rhode Island Air Toxics Regulations. These Cleanup Standards must be met at the perimeter of the Landfill:

Contaminant	Cleanup Level (ug/m^3)*
Chloroform	0.04
1,2-dichloroethane	0.04
Carbon tetrachloride	0.03
Benzene	0.1
Methylene chloride	0.2

Trichloroethene	0.3
Tetrachloroethene and 1,1,2,2-Tetrachloroethane	0.05
Toluene	400

* Acceptable ambient level (annual average)

b. Other Performance Standards: All remedial activities must meet or attain all applicable or relevant and appropriate federal and state standards, requirements, criteria or limitations (to the extent they are applicable or relevant and appropriate) identified in the ROD, the SOW and the approved design documents, and such other standards, requirements, criteria or limitations are hereby incorporated by reference and must be attained, as if set forth fully herein. All remedial activities must meet or attain all other health or environmentally related numerical standards set forth in the ROD, and must meet or attain all standards for closure of the Landfill, the gas collection and thermal destruction system, and air, surface water and groundwater monitoring specified in the ROD and the SOW, including standards for upgrading the Landfill closure set forth in Section IV.A of the SOW, standards for the gas collection and thermal destruction treatment system set forth in Section IV.B of the SOW, and standards for air and groundwater monitoring set forth in Section IV.C of the SOW.

c. Settling Defendants shall not use any portion of the Site in any manner that EPA determines would adversely affect the integrity of any containment system, treatment system or

monitoring system installed pursuant to this Settlement Agreement and Consent Decree.

d. The Performing Settling Defendants and Owner Settling Defendants shall continue to implement the Remedial Action and O&M until the Performance Standards are achieved and for so long thereafter as is otherwise required under this Settlement Agreement and Consent Decree.

15. Performing Settling Defendants and Owner Settling Defendants acknowledge and agree that nothing in this Settlement Agreement and Consent Decree, the SOW, the Remedial Design/Remedial Action Work Plan, the 100% Design, the Remedial Action Implementation Plan, the O&M Plan or the Post Closure O&M Plan constitutes a warranty or representation of any kind by Plaintiffs that compliance with the Work requirements set forth in the SOW and the Plans will achieve the Performance Standards. Performing Settling Defendants' and/or Owner Settling Defendants' compliance with the Work requirements shall not foreclose Plaintiffs from seeking compliance with all terms and conditions of this Settlement Agreement and Consent Decree, including, but not limited to, the applicable Performance Standards.

16. a. Performing Settling Defendants have provided written notification of off-Site shipment of Waste Material from the Site to an out-of-state waste management facility to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator of such shipment of Waste Material.

b. To the extent that any future notifications of off-Site shipments of Waste Materials are necessary, the Performing Settling Defendants or Owner Settling Defendants, as appropriate, shall include in any future written notification the following information, where available: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. The Performing Settling Defendants or Owner Settling Defendants, as appropriate, shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state. The Performing Settling Defendants or Owner Settling Defendants, as appropriate, shall provide the information required by this Subparagraph before the Waste Material is actually shipped. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

VII. MODIFICATION OF THE SOW

17. If EPA determines that modification to the work specified in the SOW, work plans and/or other plans developed pursuant to the SOW is necessary to achieve and maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy set forth in the ROD, EPA may require that such

modification be incorporated in the SOW, work plans and/or such other plans. Provided, however, that a modification may only be required pursuant to this Section to the extent that it is consistent with the scope of the remedy selected in the ROD. For the purposes of this Section only, the "scope of the remedy selected in the ROD" is: containment of Waste Materials beneath a landfill cap to control the source of contamination and minimize contamination migrating from the landfill; collection and management of stormwater; collection and treatment of landfill gas; long term maintenance of the landfill cap and gas collection and treatment system; long term monitoring of air groundwater, and surface water; and establishment and maintenance of institutional controls and access necessary to implement the remedy at this Site and ensure that the remedy is protective of human health and the environment.

18. Within 60 days (unless EPA determines that more time is necessary) of receipt of written notice from EPA or Performing Settling Defendants pursuant to Paragraph 17 that additional response actions are necessary (or such longer time as may be specified by EPA), Performing Settling Defendants shall submit to EPA and the State, for approval by EPA, after reasonable opportunity for review and comment by the State, a work plan for the additional response actions. The plan shall conform to this Settlement Agreement and Consent Decree, the NCP, EPA Superfund Remedial Design and Remedial Action Guidance (OSWER Directive 9355.0-4A), and other guidances identified by EPA. To the extent

that EPA provides any additional guidance documents to Performing Settling Defendants, these additional guidance documents shall only be applicable to future obligations. Upon approval Performing Settling Defendants shall implement any work required by any modifications incorporated in the SOW, work plans and/or other plans developed pursuant to the SOW in accordance with this Section and with the schedule contained therein.

19. Any modifications to the SOW, the work plans and/or other plans developed pursuant to the SOW that Performing Settling Defendants propose are necessary to meet the Performance Standards or to carry out the remedy selected in the ROD, shall be subject to approval by EPA, after reasonable opportunity for review and comment by the State. If authorized by EPA, Performing Settling Defendants shall complete all such additional response actions in accordance with plans, specifications, and schedules approved or established by EPA pursuant to Section XII (Submissions Requiring Agency Approval).

20. If Performing Settling Defendants object to any modification determined by EPA to be necessary pursuant to this Section, they may seek dispute resolution pursuant to Section XXI (Dispute Resolution). Such a dispute shall be resolved pursuant to Paragraphs 64-68 of this Settlement Agreement and Consent Decree. The SOW and/or related work plans shall be modified in accordance with final resolution of the dispute. Nothing in this Section shall be construed to limit EPA's authority to require

performance of further response actions as otherwise provided in this Settlement Agreement and Consent Decree.

VIII. EPA REMEDY REVIEW

21. Performing Settling Defendants shall conduct any studies and investigations as deemed necessary by EPA in order to permit EPA to conduct reviews of whether the Remedial Action is protective of human health and the environment at least every five years as required by Section 121(c) of CERCLA and any applicable regulations.

22. If EPA determines, at any time, that the Remedial Action is not protective of human health and the environment, EPA may select further response actions for the Site in accordance with the requirements of CERCLA and the NCP. Performing Settling Defendants, Owner Settling Defendants and, if required by Sections 113(k)(2) or 117 of CERCLA, the public, will be provided with an opportunity to comment on any further response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA and to submit written comments for the record during the comment period.

23. a. If EPA selects further response actions for the Site, the Performing Settling Defendants shall undertake such further response actions to the extent that the reopener conditions in Paragraph 85 or Paragraph 86 are satisfied. The Performing Settling Defendants may invoke the procedures set forth in Section XXI (Dispute Resolution) to dispute (1) EPA's determination that the Remedial Action is not protective of human

health and the environment, (2) EPA's selection of the further response actions, or (3) EPA's determination that the reopener conditions of Paragraph 85 or Paragraph 86 of Section XXIV (Covenants Not To Sue) are satisfied. Disputes pertaining to whether the Remedial Action is protective or to EPA's selection of further response actions shall be resolved pursuant to Paragraph 68 (record review).

b. If Performing Settling Defendants are required to perform further response actions pursuant to this Section, they shall submit a plan for such work to EPA for approval in accordance with the procedures set forth in Section VI (Performance of the Work by Settling Defendants) and shall implement the plan approved by EPA in accordance with the provisions of this Settlement Agreement and Consent Decree.

IX. QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS

24. Performing Settling Defendants shall use quality assurance, quality control, and chain of custody procedures throughout the performance of the Work in accordance with the SOW, EPA's "Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans," December 1980, (QAMS-005/80); "Data Quality Objective Guidance," (EPA/540/G87/003 and 004); "EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, (EPA 330/9-78-001-R); and subsequent amendments to such guidelines and guidances upon notification by EPA to Performing Settling Defendants of such amendment. Amended guidelines and guidances shall apply only to procedures conducted

after such notification. If relevant to the proceeding, the Parties agree that validated sampling data generated in accordance with a Quality Assurance Project Plan ("QAPP") submitted pursuant to the SOW, and reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding under this Decree. Performing Settling Defendants shall ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Performing Settling Defendants in implementing this Settlement Agreement and Consent Decree. In addition, Performing Settling Defendants shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Performing Settling Defendants shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Decree perform all analyses according to accepted EPA methods. Performing Settling Defendants shall ensure that all laboratories they use for analysis of samples taken pursuant to this Settlement Agreement and Consent Decree participate in an EPA or EPA-equivalent QA/QC program.

25. Upon request of EPA or the State, the Performing Settling Defendants shall allow split or duplicate samples to be taken by EPA and the State or their authorized representatives. Performing Settling Defendants shall notify EPA and the State not less than 28 days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA and

the State shall have the right to take any additional samples that EPA or the State deem necessary. Upon request, EPA and the State shall allow the Performing Settling Defendants to take split or duplicate samples of any samples they take as part of the Plaintiffs' oversight of the Performing Settling Defendants' implementation of the Work.

26. Performing Settling Defendants shall submit to EPA and the State 2 copies each of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Settling Defendants with respect to the Site and/or the implementation of this Settlement Agreement and Consent Decree unless EPA agrees otherwise.

27. Notwithstanding any provision of this Settlement Agreement and Consent Decree, the United States and the State hereby retain all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA and any other applicable statutes or regulations.

X. ACCESS AND INSTITUTIONAL CONTROLS

28. Commencing upon the date of entry of this Settlement Agreement and Consent Decree, the Owner Settling Defendants and Performing Settling Defendants agree to provide the United States, the State, and their representatives, including, but not limited to, EPA and its contractors, and all the Performing Settling Defendants, access at all reasonable times to the Site and any other property to which access is required for the

implementation of this Settlement Agreement and Consent Decree, to the extent access to the property is controlled by Owner Settling Defendants and/or Performing Settling Defendants, respectively, including but not limited to, Lots 9, 9A, 10, 11, 67, 68 on Assessors Plat 7 in North Smithfield, Rhode Island, and a portion of Lot 3 on Plat 7, for the purposes of conducting any activity related to this Settlement Agreement and Consent Decree including, but not limited to:

a. Monitoring the Work;

b. Verifying any data or information submitted to the United States or the State;

c. Conducting investigations relating to contamination at or near the Site;

d. Obtaining samples;

e. Assessing the need for, planning, or implementing additional response actions at or near the Site;

f. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Defendants or their agents, consistent with Section XXVII;

g. Assessing Settling Defendants' compliance with this Settlement Agreement and Consent Decree;

h. Determining whether the property is being used in a manner that is prohibited by this Settlement Agreement and Consent Decree or related agreements or easements; and

i. Implementing the Work pursuant to the conditions set forth in Paragraph 93 of this Settlement Agreement and Consent Decree.

Prior to entry of this Settlement Agreement and Consent Decree, access shall continue to be provided pursuant to the UAO.

29. The Parties acknowledge the License Agreement Between Landfill & Resource Recovery, Inc. and Recycling of R.I., Inc. and the Members of the Landfill & Resource Recovery Site Group Regarding Portions of Lots 9, 9A, 10, 11, 67, 68 and 3 on Assessor's Plat 7 in North Smithfield, Rhode Island ("License Agreement") which became effective on April 10, 1991, and which is attached hereto as Appendix J. Upon entry of this Settlement Agreement and Consent Decree, the License Agreement shall be incorporated herein and enforceable hereunder. The Parties agree that the rights and benefits extended to the Members of the Landfill & Resource Recovery Site Group under the terms of the License Agreement shall also extend to the United States and the State, including their employees and contractors.

30. a. Commencing upon the date of entry of this Settlement and Consent Decree, the Owner Settling Defendants shall not use or permit the use of any of their property for which use restrictions are required to protect the remedial action set forth in the ROD, the public health, or the environment during or after implementation of the remedial action set forth in the ROD, including, but not limited to Lots 9, 9A, 10, 11, 67, 68 on Assessors Plat 7 in North Smithfield, Rhode Island, and a portion

of Lot 3 on Plat 7, in violation of any of the following restrictions:

i. No person shall consume or use groundwater underlying the property in any way except for the limited purpose of treating and monitoring groundwater contamination levels. Groundwater wells and facilities installed for such purpose shall only be installed pursuant to a plan approved by the United States after review and comment by the State.

ii. No person shall disturb the surface or subsurface of the cap by filling, drilling, excavation, or removal of topsoil or other materials.

iii. No person shall conduct any use or activity on the property that will disturb any of the remedial measures that have been implemented pursuant to the UAO or will be implemented pursuant to this Settlement Agreement and Consent Decree.

iv. No person shall conduct any activity that violates any additional use restrictions that EPA determines are required to protect the remedial action set forth in the ROD, the public health, or the environment during or after implementation of the remedial action set forth in the ROD.

b. If any Owner Settling Defendant seeks to undertake any restricted use or activity on the property, it may file a petition with EPA setting forth the nature of the use or activity, the reason why the use or activity is necessary, and any expected impact of the use or activity on the remedy, the public health, and the environment. The Owner Settling Defendant may undertake the restricted use or activity only if EPA determines, in its sole and unreviewable discretion, to allow such use or activity to be implemented pursuant to an approved plan. The Owner Settling Defendants shall notify EPA prior to any facility improvements or other construction activities on such property.

31. The Owner Settling Defendants agree to file the easements described below with respect to property that is owned or controlled by any of the Owner Settling Defendants, to which access by the United States or the State is required for the implementation of this Settlement Agreement and Consent Decree, or for which land or water use restrictions are required to ensure that the remedial action set forth in the ROD is and remains protective, and to protect the public health or the environment during or after the implementation of the remedial action set forth in the ROD, including, but not limited to, the property described as follows and as more specifically described in Appendix K: Lots 9, 9A, 10, 11, 67, 68 on Assessors Plat 7 in North Smithfield, Rhode Island, and a portion of Lot 3 on Plat 7. Owner Settling Defendants shall, within 45 days of entry of this Consent Decree, submit to EPA for review and approval, after a reasonable opportunity for review and comment by the State with respect to such property:

i. A draft easement that grants to the United States, the State, the Performing Settling Defendants, and/or their contractors and representatives (A) a right of access, running with the land and binding on successors-in-title, for the purpose of conducting any activity related to this Settlement Agreement and Consent Decree including, but not limited to, those activities listed in Subparagraph 28, and (B) a right, running with the land and binding on successors-in-title, to enforce any land and water use restrictions. The easement shall be enforceable under the laws of the State of Rhode Island, shall be in substantially the same form as the sample easement that is included as Appendix G to the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (1996), shall be free and clear of all prior liens and encumbrances, and shall comply with the Attorney General's Title Regulations promulgated pursuant to 40 U.S.C. § 255; and

ii. a current title commitment or report prepared in accordance with the U.S. Department of Justice Standards for the Preparation of Title Evidence in Land Acquisitions by the United States (the "Standards").

Within fifteen (15) days of EPA's approval and acceptance of the easement, the Owner Settling Defendants shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment or report to affect the title adversely, file the easement with the Recorder's Office or Registry of Deeds or other appropriate office of Providence County. Within thirty (30) days of filing the easement, the Owner Settling Defendants shall provide EPA with a title insurance policy or other final title evidence acceptable under the Standards, and the original recorded easement or a certified copy thereof showing the clerk's recording stamps. Owner Settling Defendants shall provide a copy of such documents to the State and Performing Settling Defendants at the same time as they are provided to EPA. If EPA notifies the Owner Settling Defendants that additional easements providing access rights are required for implementation of this Consent Decree, or that additional restrictive easements are needed to ensure that the remedial action set forth in the ROD is and remains protective, and to protect the public health, or the environment during or after implementation of the remedial action set forth in the ROD, the Owner Settling Defendants shall respond by following the procedure outlined in this Subparagraph as though the property had been identified in this Subparagraph, except that the time requirements shall commence with the date of receipt of the

written notice, as opposed to the date of entry of the Settlement Agreement and Consent Decree. A violation of any access easement or restrictive easement filed pursuant to this Settlement Agreement and Consent Decree by an Owner Settling Defendant shall be considered a violation of this Settlement Agreement and Consent Decree.

32. a. To the extent that the Site or any other property to which access is required for the implementation of this Consent Decree, or for which land or water use restrictions are needed to ensure the remedial action set forth in the ROD is or remains protective, or to protect the public health, or the environment during or after implementation of the remedial action set forth in the ROD, is owned or controlled by persons other than a Settling Defendant including, but not limited to, Lot 23 on Assessors Plat 7 in North Smithfield, Rhode Island (see Appendix K hereto). Performing Settling Defendants shall use best efforts to secure from such persons for the United States and the State and their representatives, including, but not limited to, EPA and its contractors, as well as the Performing Settling Defendants: (i) access to the property for the purpose of conducting any activity related to this Settlement Agreement and Consent Decree including, but not limited to, those activities listed in Paragraph 28, and (ii) the right to enforce any land and water use restrictions (collectively "Access"). For purposes of this Subparagraph "best efforts" includes the payment of reasonable sums of money in consideration of Access. If any Access required

by this Subparagraph is not obtained within 45 days of the date of lodging of this Settlement Agreement and Consent Decree, or within 45 days of the date EPA notifies the Performing Settling Defendants in writing that additional Access beyond that previously secured is necessary, Performing Settling Defendants shall promptly notify the United States and the State in writing, and shall include in that notification a summary of the steps Performing Settling Defendants have taken to attempt to obtain Access. The United States or the State may, as it deems appropriate, assist Performing Settling Defendants in obtaining Access or the property use restrictions. Performing Settling Defendants shall reimburse the United States or the State, in accordance with the procedures in Section XVII (Reimbursement in Satisfaction of Claims) and Appendix G, for all costs incurred by the United States or the State in obtaining Access and property use restrictions including, but not limited to, attorneys fees and the amount paid for the access rights and property use restrictions. Such costs shall be considered Future Response Costs.

b. To the extent that the Site or any other property to which Access is required for the implementation of this Consent Decree, or for which land or water use restrictions are needed to ensure the remedial action set forth in the ROD is or remains protective, or to protect the public health, or the environment during or after implementation of the remedial action set forth in the ROD, is owned or controlled by persons other than a

Settling Defendant including, but not limited to, Lot 23 (see Appendix K hereto), Performing Settling Defendants shall use best efforts to secure from such persons the filing of the access easements and restrictive easements described below. For the purposes of this Subparagraph "best efforts" includes the payment of reasonable sums of money in consideration of the filing of these easements. Performing Settling Defendants shall, within 90 days of entry of this Settlement Agreement and Consent Decree, submit to EPA for review and approval, after a reasonable opportunity for review and comment by the State, the following:

i. A draft easement that grants to the United States, the State, the Performing Settling Defendants, and/or their contractors and representatives (A) a right of access, running with the land and binding on successors-in-title, for the purpose of conducting any activity related to this Settlement Agreement and Consent Decree including, but not limited to, those activities listed in Paragraph 28, and (B) a right, running with the land and binding on successors-in-title, to enforce any land and water use restrictions. The easement shall be enforceable under the laws of the State of Rhode Island, shall be in substantially the same form as the sample easement that is included as Appendix G to the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (1996), shall be free and clear of all prior liens and encumbrances, and shall comply with the Attorney General's Title Regulations promulgated pursuant to 40 U.S.C. § 255; and

ii. a current title commitment or report prepared in accordance with the U.S. Department of Justice Standards for the Preparation of Title Evidence in Land Acquisitions by the United States (the "Standards").

Within fifteen (15) days of EPA's approval and acceptance of the easement, Performing Settling Defendants shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment or report to affect the title adversely, file the easement with the Recorder's Office or

Registry of Deeds or other appropriate office, of the county(ies) where the land is located. Within thirty (30) days of filing the easement, Performing Settling Defendants shall provide EPA with a title insurance policy or other final title evidence acceptable under the Standards, and the original recorded easement or a certified copy thereof showing the clerk's recording stamps. The Performing Settling Defendants shall provide a copy of such documents to the State at the same time as they are provided to EPA. If any easement required by this Subparagraph is not submitted to EPA for review and approval within 90 days of the date of entry of this Consent Decree, Performing Settling Defendants shall promptly notify the United States in writing, and shall include in that notification a summary of the steps Performing Settling Defendants have taken to attempt to obtain such easements. The United States or the State may, as it deems appropriate, assist Performing Settling Defendants in obtaining these access easements and restrictive easements. Performing Settling Defendants shall reimburse the United States or the State, in accordance with the procedures in Section XVIII (Reimbursement in Satisfaction of Claims) and Appendix G, for all costs incurred by the United States and the State in obtaining the easements including, but not limited to, attorneys fees and the amount paid to obtain the filing of the access easements and restrictive easements. Such costs shall be Future Response Costs. If EPA notifies Performing Settling Defendants in writing that additional access easements are required for implementation

of this Settlement Agreement and Consent Decree, or that additional restrictive easements are needed to ensure the remedial action set forth in the ROD is protective, or to protect the public health, or the environment during or after implementation of the remedial action set forth in the ROD, with respect to property that is not owned or controlled by any of the Settling Defendants, Performing Settling Defendants shall respond by following the procedure outlined in this Subparagraph as though the property had been identified in this Settlement Agreement and Consent Decree, except that the time requirements shall commence with the date of receipt of the written notice, as opposed to the date of entry of the Settlement Agreement and Consent Decree. A violation of any access easement or restrictive easement filed pursuant to this Settlement Agreement and Consent Decree by a Settling Defendant shall be considered a violation of this Consent Decree.

33. Notwithstanding any provision of this Settlement Agreement and Consent Decree, the United States and the State retain all of their access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statute or regulations.

XI. REPORTING REQUIREMENTS

34. In addition to any other requirement of this Settlement Agreement and Consent Decree, Performing Settling Defendants shall submit to EPA and the State 1 copy each of written monthly (unless EPA determines this frequency should be modified)

progress reports that: (a) describe the actions which have been taken toward achieving compliance with this Settlement Agreement and Consent Decree during the previous relevant time period; (b) include a summary of all results of sampling and tests and all other data received or generated by Performing Settling Defendants or their contractors or agents in the previous relevant time period; (c) identify all work plans, plans and other deliverables required by this Settlement Agreement and Consent Decree that were completed and submitted during the previous relevant time period; (d) describe all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next three months and provide other information relating to the progress of the Work; (e) include any modifications to the work plans or other schedules that Performing Settling Defendants have proposed to EPA or that have been approved by EPA; and (f) if appropriate, describe all activities undertaken in support of Community Relations during the previous relevant time period and those to be undertaken in the next three months. Upon entry of this Decree, Performing Settling Defendants shall submit these progress reports to EPA and the State by the tenth day of every month following the lodging of this Settlement Agreement and Consent Decree (unless otherwise determined by EPA) until EPA notifies the Performing Settling Defendants pursuant to Paragraph 49.b. of Section XV (Certification of Completion). If requested by EPA or the State, Performing Settling Defendants shall also

provide briefings for EPA and the State to discuss the progress of the Work.

35. The Performing Settling Defendants shall notify EPA of any change in the schedule described in the progress report for the performance of any activity, including, but not limited to, data collection and implementation of work plans, no later than seven days prior to the performance of the activity unless EPA determines that a shorter time is needed.

36. Upon the occurrence of any event during performance of the Work that Performing Settling Defendants are required to report pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, and/or Section 304 of the Emergency Planning and Community Right-to-know Act (EPCRA), 42 U.S.C. § 11004, Performing Settling Defendants shall within 24 hours of the on-set of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator designated pursuant to Section XIII (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response Unit, Region I, United States Environmental Protection Agency, and shall also notify the State Project Coordinator. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

37. Within 20 days of the onset of such an event, Performing Settling Defendants shall furnish to Plaintiffs a written report, signed by the Performing Settling Defendants' Project

Coordinator, setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within 30 days of the conclusion of such an event, Performing Settling Defendants shall submit a report setting forth all actions taken in response thereto.

38. Performing Settling Defendants shall submit 3 copies of all plans, reports, and data required by the SOW and the Post Closure Operation and Maintenance Plan, or any other approved plans to EPA in accordance with the schedules set forth in such plans. Performing Settling Defendants shall simultaneously submit 3 copies of all such plans, reports and data to the State.

39. All reports and other documents submitted by Performing Settling Defendants or Owner Settling Defendants to EPA (other than the progress reports referred to above) which purport to document Performing Settling Defendants' or Owner Settling Defendants' compliance with the terms of this Settlement Agreement and Consent Decree shall be signed by an authorized representative of the Performing Settling Defendants or Owner Settling Defendants as appropriate.

XII. SUBMISSIONS REQUIRING AGENCY APPROVAL

40. After review of any plan, report or other item which is required to be submitted for approval pursuant to this Settlement Agreement and Consent Decree, EPA, after reasonable opportunity for review and comment by the State, shall in writing: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission

to cure the deficiencies; (d) disapprove, in whole or in part, the submission, notifying Settling Defendants of deficiencies and of EPA's decision that EPA will modify the submission; or (e) any combination of the above. If EPA does not approve the submission pursuant to (a) above, EPA may require the Performing Settling Defendants to participate in such meetings as EPA determines are necessary to modify the submission to comply with the requirements of this Decree and the SOW. If EPA determines, upon receipt of any plan, report or other item required to be submitted for approval pursuant to this Consent Decree, that such plan, report or other item is materially incomplete, in addition to taking any action set forth in (a) through (e) above, EPA may notify the Performing Settling Defendants of the material omissions and such plan, report or other item shall not be deemed to have been submitted to EPA for purposes of complying with the requirements of this Consent Decree and SOW.

41. In the event of approval, approval upon conditions, modification by EPA, or disapproval pursuant to Paragraph 40(a), (b), (c), (d), or (e), Performing Settling Defendants shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XXI (Dispute Resolution) with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 40(c), (d) or (e) and the submission has a material defect, EPA retains

its right to seek stipulated penalties, as provided in Section XXII.

42. Notwithstanding the receipt of a written notice of disapproval pursuant to Paragraph 40(d), Performing Settling Defendants shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Performing Settling Defendants of any liability for stipulated penalties under Section XXII (Stipulated Penalties) for any deficient portion.

43. All plans, reports, and other items required to be submitted to EPA under this Settlement Agreement and Consent Decree shall, upon approval or modification by EPA, be enforceable under this Settlement Agreement and Consent Decree. In the event EPA approves or modifies a portion of a plan, report, or other item required to be submitted to EPA under this Settlement Agreement and Consent Decree, the approved or modified portion shall be enforceable under this Settlement Agreement and Consent Decree. To the extent EPA approves or modifies a portion of a plan, report, or other item required to be submitted to EPA under this Settlement Agreement and Consent Decree, the Settling Defendants may not challenge their obligation to perform, or disclaim responsibility for, any action required by such plan, report or other item except as authorized by Section XXI (Dispute Resolution).

XIII. PROJECT COORDINATORS

44. Within 20 days of lodging of this Settlement Agreement and Consent Decree, Performing Settling Defendants, the State and EPA will notify each other, in writing, of the name, address and telephone number of their respective designated Project Coordinators and Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to the other Parties at least 5 working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. The Performing Settling Defendants' Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. The Performing Settling Defendants' Project Coordinator shall not be an attorney for any of the Performing Settling Defendants in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities. In addition, EPA will designate, in writing, a Geographic Section Chief who will be responsible for all the findings of approval/disapproval, and comments on all major project deliverables.

45. Plaintiffs may designate other representatives, including, but not limited to, EPA and State employees, and federal and State contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this

Settlement Agreement and Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and an On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. In addition, EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent with the National Contingency Plan, to halt, conduct or direct any Work required by this Settlement Agreement and Consent Decree, and to take any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

46. EPA's Project Coordinator, the State's Project Coordinator and the Performing Settling Defendants' Project Coordinator will meet or confer by phone, on a monthly basis, and/or as scheduled by EPA's Project Coordinator or the State's Project Coordinator.

XIV. ASSURANCE OF ABILITY TO COMPLETE WORK

47. Within 90 days of lodging of this Settlement Agreement and Consent Decree, Performing Settling Defendants shall establish and maintain financial security in the amount of $10 million by a demonstration that one or more of the Performing Settling Defendants satisfy the substantive requirements of 40 C.F.R. Part 264.143(f). Performing Settling Defendants shall make such initial demonstration by submitting a letter, from a

corporate official with appropriate environmental responsibilities, that illustrates compliance with and includes documentation that establishes the substantive requirements of 40 C.F.R. Part 264.143(f). Upon request by EPA or a significant change in the financial condition of the Performing Settling Defendant maintaining the financial assurance, the Performing Settling Defendants shall, within 30 days of such request or change in financial condition, submit a letter from and Form 10-K of another Performing Settling Defendant to demonstrate financial assurance as required by this Section. EPA shall review the 10-K in comparison to the substantive requirements of 40 C.F.R. Part 264.143(f), to determine whether the financial assurance requirements of this Section have been met. In the event that EPA, after a reasonable opportunity for review and comment by the State, determines, in its unreviewable discretion, that the 10-K is inadequate to provide the financial assurances required pursuant to this Section, Performing Settling Defendants shall, within 30 days of receipt of written notice of EPA's determination, obtain and present to EPA for approval, after opportunity for review and comment by the State, another form of financial assurance as specified by EPA. Performing Settling Defendants' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Settlement Agreement and Consent Decree.

XV. CERTIFICATION OF COMPLETION

48. Completion of the Remedial Action

a. Within 90 days after Performing Settling Defendants conclude that the Remedial Action has been fully performed and all Performance Standards have been attained for three consecutive years, including Performance Standards for air emissions under open vent conditions for three consecutive years after discontinuance of the operation of the gas collection and thermal treatment system, and the remedy is protective, Performing Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Performing Settling Defendants, EPA and the State. If, after the pre-certification inspection, the Performing Settling Defendants still believe that the Remedial Action has been fully performed and the Performance Standards have been attained for three consecutive years, including Performance Standards for air emissions under open vent conditions for three consecutive years after discontinuance of the operation of the gas collection and thermal treatment system, and the remedy is protective, they shall submit a written report requesting certification to EPA for approval, with a copy to the State, pursuant to Section XII (Submissions Requiring Agency Approval) within 30 days of the inspection. In the report, a registered professional engineer and the Performing Settling Defendants' Project Coordinator shall state that the Remedial Action has been completed in full satisfaction of the requirements of this Settlement Agreement and

Consent Decree. The written report shall include as-built drawings (incorporated by reference) signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of a Performing Settling Defendant or the Performing Settling Defendants' Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that the Remedial Action or any portion thereof has not been completed in accordance with this Settlement Agreement and Consent Decree or that the Performance Standards have not been achieved as described in this Subparagraph, EPA will notify Performing Settling Defendants in writing of the activities that must be undertaken to complete the Remedial Action and achieve the Performance Standards. EPA will set forth in the notice a schedule for performance of such activities consistent with the Settlement Agreement and Consent Decree and the SOW or require the Performing Settling Defendants to submit a schedule to EPA for approval pursuant to Section XII (Submissions Requiring Agency Approval). Performing Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this

Paragraph, subject to their right to invoke the dispute resolution procedures set forth in Section XXI (Dispute Resolution).

b. If EPA concludes, based on the pre-certification inspection and the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action has been fully performed in accordance with this Settlement Agreement and Consent Decree and that the Performance Standards have been achieved as described in Subparagraph a, EPA will so certify in writing to Performing Settling Defendants. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Settlement Agreement and Consent Decree, including, but not limited to, Section XXIII (Covenants Not to Sue by Plaintiffs). Certification of Completion of the Remedial Action shall not affect Settling Defendants' obligations under this Settlement Agreement and Consent Decree.

49. Completion of the Work

a. Within 90 days after Performing Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Performing Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Performing Settling Defendants, EPA and the State. If, after the pre-certification inspection, the Performing Settling Defendants still believe that the Work has been fully performed, Performing Settling Defendants shall submit a written report by a registered

professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Settlement Agreement and Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Performing Settling Defendant or the Performing Settling Defendants' Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after completion of the pre-certification inspection and review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance with this Settlement Agreement and Consent Decree, EPA will notify Performing Settling Defendants in writing of the activities that must be undertaken to complete the Work. EPA will set forth in the notice a schedule for performance of such activities consistent with the Settlement Agreement and Consent Decree and the SOW or require the Performing Settling Defendants to submit a schedule to EPA for approval pursuant to Section XII (Submissions Requiring Agency Approval). Performing Settling Defendants and Owner Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to their right to invoke the dispute resolution procedures set forth in Section XXI (Dispute Resolution).

b. If EPA concludes, based on the pre-certification inspection and the initial or any subsequent request for Certification of Completion by Performing Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been fully performed in accordance with this Settlement Agreement and Consent Decree, EPA will so notify the Performing Settling Defendants in writing.

XVI. EMERGENCY RESPONSE

50. In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Performing Settling Defendants and Owner Settling Defendants shall, subject to Paragraph 51, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, the Settling Defendants shall immediately notify the EPA Emergency Response Unit, Region I. Within 5 days after the notification, the Performing Settling Defendants and Owner Settling Defendants shall provide to EPA notice, in writing, of the actions taken to prevent, abate or minimize the release or threat of release. Performing Settling Defendants and Owner Settling Defendants shall take such actions in consultation with EPA's Project Coordinator or other available

authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents developed pursuant to the SOW and approved by EPA. In the event that Performing Settling Defendants and Owner Settling Defendants decline to undertake any response action as required by this Section, and EPA or, as appropriate, the State takes such action instead, Performing Settling Defendants and Owner Settling Defendants shall reimburse EPA and the State all costs of the response action not inconsistent with the NCP pursuant to Section XVII (Reimbursement in Satisfaction of Claims) and Appendix G.

51. Nothing in the preceding Paragraph or in this Settlement Agreement and Consent Decree shall be deemed to limit any authority of the United States, or the State, to take, direct, or order all appropriate action or to seek an order from the Court to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site.

XVII. REIMBURSEMENT IN SATISFACTION OF CLAIMS

52. a. Except as provided in Paragraph 2.A of Appendix G, within 75 days of the effective date of this Settlement Agreement and Consent Decree, Performing Settling Defendants and Owner Settling Defendants jointly shall make payments totalling the sum of $2,000,000 (two million) plus Interest. The payments required by this Paragraph shall be made in accordance with the instructions set forth in Appendix G hereto. Interest shall

begin to accrue as of September 30, 1996. The parties agree that this sum is for reimbursement of Past Response Costs and Natural Resource Damages for resources under the trusteeship of DOI and the State (except State groundwater). This sum also includes reimbursement in satisfaction of the claim pursuant to Section 106(b)(1) of CERCLA through the date of lodging of this Settlement Agreement and Consent Decree. Although Performing Settling Defendants and Owner Settling Defendants are aware of and acknowledge that settlement funds are being allocated by Plaintiffs as provided in Appendix G, Performing Settling Defendants and Owner Settling Defendants continue to deny that any allocation to claims pursuant to Section 106(b)(1) of CERCLA is appropriate; Performing Settling Defendants and Owner Settling Defendants acknowledge that the provisions of Paragraph 1 of this Settlement Agreement and Consent Decree apply to Appendix G.

b. Plaintiffs acknowledge prior receipt of $60,000 paid by the Funding Entities on behalf of the Cannons Defendants in satisfaction of Plaintiffs' claims for Past and Future Response Costs. Such funds are currently held in a reimbursable account at EPA's Cincinnati Financial Management Center. Upon entry of this Settlement Agreement and Consent Decree, EPA will transfer such funds to the EPA Hazardous Substances Superfund.

53. a. Performing Settling Defendants and Owner Settling Defendants shall reimburse the United States and the State for all Oversight Costs and all Future Response Costs not inconsistent with the National Contingency Plan incurred by the

United States and the State, except that reimbursement of Oversight Costs incurred as a result of overseeing the Work conducted pursuant to Section IV.C of the SOW shall be limited to the amounts specified in Appendix H of this Settlement Agreement and Consent Decree. On a periodic basis, the United States and the State will each send Performing Settling Defendants and Owner Settling Defendants a bill requiring payment that consists of a Region I standard cost summary, which is a line-item summary of costs in dollars by category of costs (including but not limited to payroll, travel, indirect costs, and contracts) incurred by EPA, DOJ, the State, and their contractors in connection with the Site. Performing Settling Defendants and Owner Settling Defendants shall make all Oversight Costs and Future Response Costs payments within 30 days of their receipt of each bill requiring payment. Payment of Oversight Costs associated with activities conducted pursuant to Section IV.C of the SOW pursuant to this Paragraph shall not be subject to Dispute Resolution under Section XXI, or otherwise subject to judicial review. Payment of Future Response Costs and all other Oversight Costs shall be subject to Dispute Resolution under Section XXI. The Performing Settling Defendants and Owner Settling Defendants shall make all payments required by this Paragraph in the form of a certified check or checks made payable to "EPA Hazardous Substances Superfund" and referencing the EPA Region and Site/Spill ID # 01-30, and DOJ case number 90-11-2-449B. The Performing Settling Defendants and Owner Settling Defendants

shall forward the certified check(s) to EPA Region I, Attn: Superfund Accounting, P.O. Box 360197M, Pittsburgh, PA 15251 and shall send copies of the check and transmittal letter to the United States as specified in Section XXVIII (Notices and Submissions). The Performing Settling Defendants and Owner Settling Defendants shall make all payments to the State required by this Paragraph in the form of a certified check or checks made payable to "General Treasurer" (for deposit in the Environmental Response Fund). The Performing Settling Defendants and Owner Settling Defendants shall send the certified check(s) to the Office of the Director, RIDEM, 9 Hayes Street, Providence, RI 02908.

b. Performing Settling Defendants and Owner Settling Defendants may contest payment of any Future Response Costs and any Oversight Costs other than those associated with activities conducted pursuant to Section IV.C of the SOW under Paragraph 53(a) if they determine that the United States or the State has made an accounting error or if they allege that a cost item that is included represents costs that are inconsistent with the NCP, provided such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the United States (if the United States' accounting is being disputed) or the State (if the State's accounting is being disputed) pursuant to Section XXVIII (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs or Oversight Costs and the basis for objection. In the event of an

objection, the Settling Defendants shall within the 30 day period pay all uncontested Future Response Costs or Oversight Costs to the United States or the State in the manner described in Paragraph 53.a. Simultaneously, within 30 days of receipt of the bill, the Settling Defendants shall establish an interest bearing escrow account in a federally insured bank duly chartered in the State of Rhode Island and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs or Oversight Costs. The Performing Settling Defendants shall send to the United States, as provided in Section XXVIII (Notices and Submissions), and the State a copy of the transmittal letter and check paying the uncontested Future Response Costs or Oversight Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, the Settling Defendants shall initiate the Dispute Resolution procedures in Section XXI. If the United States or the State prevails in the dispute, within 5 days of the resolution of the dispute, the Performing Settling Defendants shall pay the sums due (with accrued interest) to the United States or the State, if State costs are disputed, in the manner described in Paragraph 53.a. If the Settling Defendants prevail concerning any portion of the contested costs, the Performing

Settling Defendants shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the United States or the State, if State costs are disputed, in the manner described in Paragraph 53.a; Performing Settling Defendants and Owner Settling Defendants, as appropriate, shall be disbursed any balance of the escrow account. Unless a determination is made under this Paragraph in conjunction with the Dispute Resolution procedures of Section XXI that the Settling Defendants are not obligated to pay contested portions of the bill, the time for payment of the contested portions of the bill shall remain the original payment due date and interest shall accrue on any unpaid portions of the bill from the original payment due date. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XXI (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Performing Settling Defendants' and Owner Settling Defendants' obligation to reimburse the United States and the State for their Future Response Costs and Oversight Costs.

54. In the event that the payments required by Paragraph 52.a. are not made within 75 days of the effective date of this Settlement Agreement and Consent Decree or the payments required by Paragraph 53 are not made within 30 days of the Settling Defendants' receipt of the bill, Performing Settling Defendants and Owner Settling Defendants shall pay Interest on the unpaid balance at the rate established pursuant to Section 107(a) of

CERCLA, 42 U.S.C. § 9607. The Interest to be paid on the payments required by Paragraph 52.a shall begin to accrue as of September 30, 1996. The Interest on Future Response Costs and Oversight Costs shall begin to accrue on the date of the Performing Settling Defendants' receipt of the bill. Interest shall accrue at the rate specified through the date of the Settling Defendants' payment. The Performing Settling Defendants shall pay a one-percent handling charge and a six percent penalty charge to the United States Treasury, if the Performing Settling Defendants have not paid the full amount required by Paragraph 52.a. within 90 days of the effective date of the Decree, or the full amount required by Paragraph 53 within 90 days of Performing Settling Defendants' receipt of the bill. The Performing Settling Defendants, with respect to payments due pursuant to Paragraph 52.a., shall pay a one-percent handling charge and a six percent penalty charge to the General Treasurer, State of Rhode Island, if the Performing Settling Defendants have not paid the full amounts required by such provisions of this Decree within 90 days of the effective date of the Decree. The Performing Settling Defendants shall also pay such handling and penalty charges to the General Treasurer, State of Rhode Island if the full amount required by Paragraph 53 is not paid within 90 days of Performing Settling Defendants' receipt of the bill. Payments made under this Paragraph shall be in addition to such other remedies or sanctions available to Plaintiffs by virtue of

Settling Defendants' failure to make timely payments under this Section.

XVIII. SUPPLEMENTAL ENVIRONMENTAL PROJECTS

55. As part of the resolution of this matter an environmentally beneficial project for the purchase of interests in property within or in proximity to the Blackstone River Valley National Heritage Corridor shall be implemented in accordance with the provisions of Appendix G. The Site is located within or in proximity to the Blackstone River Valley National Heritage Corridor.

XIX. INDEMNIFICATION AND INSURANCE

56. a. The United States and the State do not assume any liability by entering into this agreement or by virtue of any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Performing Settling Defendants and Owner Settling Defendants shall indemnify, save and hold harmless the United States, the State, and their officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action arising from, or on account of, negligent or wrongful acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement and Consent Decree, including, but not limited to, any claims arising from any designation of Settling

Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Further, the Performing Settling Defendants and Owner Settling Defendants agree to pay the United States and the State all costs they incur including, but not limited to, attorneys fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on negligent or wrongful acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement and Consent Decree. Neither the United States nor the State shall be held out as a party to any contract entered into by or on behalf of Settling Defendants in carrying out activities pursuant to this Settlement Agreement and Consent Decree. Neither the Settling Defendants nor any such contractor shall be considered an agent of the United States or the State.

b. The United States and the State shall give Performing Settling Defendants notice of any claim for which the United States or State plans to seek indemnification pursuant to Paragraph 56.a, and shall consult with Performing Settling Defendants prior to settling such claims.

57. Settling Defendants waive all claims against the United States and the State and their officials, agents, employees, contractors, subcontractors and representatives for damages or reimbursement or for set-off of any payments made or to be made

to the United States or the State, arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Performing Settling Defendants shall indemnify and hold harmless the United States and the State with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

58. No later than 30 days after lodging of this Settlement Agreement and Consent Decree, Performing Settling Defendants shall secure, and shall maintain for the duration of this Settlement Agreement and Consent Decree comprehensive general liability insurance and automobile insurance with limits of one (1) million dollars, combined single limit naming as additional insured the United States and the State. In addition, for the duration of this Settlement Agreement and Consent Decree, Performing Settling Defendants shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Performing Settling Defendants in furtherance of this Settlement Agreement and Consent Decree. No later than 45 days

after lodging of this Settlement Agreement and Consent Decree, Performing Settling Defendants shall provide to EPA and the State certificates of such insurance and a copy of each insurance policy. If requested by EPA, Performing Settling Defendants shall resubmit such certificates and copies of policies within 21 days of such request. If Performing Settling Defendants demonstrate by evidence satisfactory to EPA and the State that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Performing Settling Defendants need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor. Performing Settling Defendants shall submit certificates and copies of policies documenting the insurance required by this Settlement Agreement and Consent Decree within 21 days of any change to the source or amount of any component of such insurance.

XX. FORCE MAJEURE

59. "Force majeure," for purposes of this Settlement Agreement and Consent Decree, is defined as any event arising from causes beyond the control of the Settling Defendants or of any entity controlled by Settling Defendants, including, but not limited to, their contractors and subcontractors, that delays or prevents or may delay or prevent the performance of any obligation under this Settlement Agreement and Consent Decree despite Settling Defendants' best efforts to fulfill the

obligation. The requirement that the Settling Defendants exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the Work or a failure to attain the Performance Standards.

60. If any event occurs or has occurred that delays or may delay the performance of any obligation under this Settlement Agreement and Consent Decree, whether or not caused by a force majeure event, the Performing Settling Defendants shall notify orally EPA's Project Coordinator or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Office of Site Remediation and Restoration, EPA Region I, within 48 hours of when Settling Defendants first knew that the event might cause a delay. Within 5 days thereafter, Performing Settling Defendants shall provide in writing to EPA and the State: an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Performing Settling Defendants' rationale for attributing such delay to a force

majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the Performing Settling Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Performing Settling Defendants shall include with any notice all available documentation supporting their claim that the delay was or will be attributable to a force majeure event. Failure to comply with the above requirements shall preclude Settling Defendants from asserting any claim of force majeure for that event. Settling Defendants shall be deemed to have notice of any circumstance of which, Settling Defendants, any entity controlled by Settling Defendants, or Settling Defendants' contractors knew or should have known.

61. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Settlement Agreement and Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure

event, EPA will notify the Performing Settling Defendants in writing of its decision. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay is attributable to a force majeure event, EPA will notify the Performing Settling Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

62. If the Settling Defendants elect to invoke the dispute resolution procedures set forth in Section XXI (Dispute Resolution), they shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Settling Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Settling Defendants complied with the requirements of Paragraphs 59 and 60, above. If Settling Defendants carry this burden, the delay at issue shall be deemed not to be a violation by Settling Defendants of the affected obligation of this Settlement Agreement and Consent Decree identified to EPA and the Court.

XXI. DISPUTE RESOLUTION

63. Unless otherwise expressly provided for in this Settlement Agreement and Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes between EPA and Settling Defendants arising under or with respect to this Settlement Agreement and Consent Decree. The dispute resolution procedures of this Section shall also be the exclusive mechanism to resolve disputes between the State and Settling Defendants arising under or with respect to this Settlement Agreement and Consent Decree, which disputes shall be limited to those relating to payment of Past and Future Response Costs and assessment of stipulated penalties by the State. The procedures for resolution of disputes which involve EPA are governed by Paragraphs 64 through 70. The State may participate in such dispute resolution proceedings to the extent specified in Paragraphs 64 through 70. Disputes between the State and Settling Defendants to which EPA is not a party are governed by Paragraph 71. However, the procedures set forth in this Section shall not apply to actions by the United States or the State to enforce obligations of the Settling Defendants that have not been disputed in accordance with this Section.

64. Any dispute which arises under or with respect to this Settlement Agreement and Consent Decree shall in the first instance be the subject of informal good faith negotiations between the parties to the dispute. The period for informal negotiations shall not exceed 20 days from the time the dispute

arises, unless it is modified by written agreement of the parties to the dispute. The dispute shall be considered to have arisen upon the receipt of the written Notice of Dispute by the other parties to the dispute.

65. In the event that the parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA, after reasonable opportunity for review and comment by the State, shall be considered binding unless, within 10 days after the conclusion of the informal negotiation period, Settling Defendants invoke the formal dispute resolution procedures of this Section by serving on the United States and the State a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Settling Defendants. The Statement of Position shall specify the Settling Defendants' position as to whether formal dispute resolution should proceed under paragraph 68 or 69.

66. Within fourteen (14) days after receipt of Settling Defendants' Statement of Position, EPA, after reasonable opportunity for review and comment by the State, will serve on Settling Defendants its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. The State may also serve a Statement of Position within the fourteen-day time limit set forth above in this Paragraph. EPA's

Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 68 or 69.

67. If there is disagreement between EPA and the Settling Defendants as to whether dispute resolution should proceed under Paragraph 68 or 69, the parties to the dispute shall follow the procedures set forth in the paragraph determined by EPA to be applicable. However, if the Settling Defendants ultimately appeal to the Court to resolve the dispute, the Court shall determine which paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 68 or 69.

68. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the adequacy of any response action includes, without limitation: (1) the adequacy or appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Settlement Agreement and Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Settlement Agreement and Consent Decree. Nothing in this Settlement Agreement and Consent Decree shall be construed to allow any dispute by Settling Defendants regarding the ROD's provisions.

a. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the Settling Defendants, EPA or the State.

b. The Director of the Office of Site Remediation and Restoration, EPA Region I, after reasonable opportunity for review and comment by the State, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 68.a. This decision shall be binding upon the Settling Defendants, subject only to the right to seek judicial review pursuant to Paragraph 68.c. and 68.d.

c. Any administrative decision made by EPA pursuant to Paragraph 68.b. shall be reviewable by this Court, provided that a notice of judicial appeal is filed by the Settling Defendants with the Court and served on all Parties within 10 days of receipt of EPA's decision. The notice of judicial appeal shall include a description of the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Settlement Agreement and Consent Decree. The United States may file within 30 days a response to Settling Defendants' notice of judicial appeal.

d. In proceedings on any dispute governed by this Paragraph, Settling Defendants shall have the burden of demonstrating that the decision of the Director of the Office of Site Remediation and Restoration is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Paragraph 68.a.

69. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Settling Defendants' Statement of Position submitted pursuant to Paragraph 65, the Director of the Office of Site Remediation and Restoration, EPA Region I, after reasonable opportunity for review and comment by the State, will issue a final decision resolving the dispute. The Director's decision shall be binding on the Settling Defendants unless, within 10 days of receipt of the decision, the Settling Defendants file with the Court and serve on the parties a notice of judicial appeal setting forth the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the Settlement Agreement and Consent Decree. The United States may file within

30 days a response to Settling Defendants' notice of judicial appeal.

b. Notwithstanding Paragraph T of Section I (Background) of this Settlement Agreement and Consent Decree, judicial review of any dispute governed by this Paragraph shall be governed by applicable provisions of law.

70. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Settling Defendants under this Settlement Agreement and Consent Decree not directly in dispute, unless EPA, after reasonable opportunity for review and comment by the State, or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 80. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Settlement Agreement and Consent Decree. In the event that the Settling Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XXII (Stipulated Penalties).

71. Disputes Solely between the State and Settling Defendants. Dispute resolution shall be available to the State under this Settlement Agreement and Consent Decree only for disputes about failure to pay Past and Future Response Costs owed to the State. Such disputes shall be governed in the following

manner. The procedures for resolving the disputes mentioned in this Paragraph shall be the same as provided for in Paragraphs 64 through 70, except that each reference to EPA shall read as a reference to RIDEM, each reference to the Director of the Office of Site Remediation and Restoration, EPA Region I, shall be read as a reference to Director, RIDEM, each reference to the United States shall be read as a reference to the State, and each reference to the State shall be read as a reference to the United States.

XXII. STIPULATED PENALTIES

72. Settling Defendants as a group shall be liable for stipulated penalties in the amounts set forth in Paragraphs 73 and 74 to the United States and the State for failure to comply with the requirements of this Settlement Agreement and Consent Decree specified below, unless excused under Section XX (Force Majeure). The breadth of the stipulated penalties set forth in Paragraphs 73 and 74 reflect the limited nature of the remaining work to be performed at the Site. The United States shall receive 90% of stipulated penalties received, and the State shall receive 10% of stipulated penalties received. "Compliance" by Settling Defendants shall include completion of the activities under this Settlement Agreement and Consent Decree or any work plan or other plan approved under this Settlement Agreement and Consent Decree identified below in accordance with all applicable requirements of law, this Settlement Agreement and Consent Decree, the SOW, and any plans or other documents approved by EPA

pursuant to this Settlement Agreement and Consent Decree and within the specified time schedules established by and approved under this Settlement Agreement and Consent Decree.

73. The following stipulated penalties shall be payable per violation per day to the United States and the State for the Performing Settling Defendants' failure to submit a timely or adequate Remedial Action Report or Completion of Work Report. The following stipulated penalties shall also be payable per violation per day to the United States and the State for the Performing Settling Defendants' and Owner Settling Defendants' failure to timely provide access or institutional controls as required by Section X hereof (Access and Institutional Controls), and the Performing Settling Defendants' failure to timely perform Completion of the Remedial Action, Completion of the Work, sampling, or any potential future Work activities pursuant to Section VII of the SOW and failure to timely submit Post Closure Operation and Maintenance Reports.

Penalty Per Violation Per Day	Period of Noncompliance
$ 2,000	1st through 20th day
$ 3,500	21st through 30th day
$10,000	31st day and beyond

74. The following stipulated penalties shall be payable per violation per day to the United States and the State for any noncompliance except as identified in Paragraph 73:

Penalty Per Violation Per Day	Period of Noncompliance
$1,000	1st through 14th days
$2,000	15th day and beyond

75. In the event that EPA or the State assumes performance of a portion or all of the Work pursuant to Paragraph 93 of Section XXIII (Covenants Not to Sue by Plaintiffs), Settling Defendants shall be liable for a stipulated penalty in the amount of $150,000.

76. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XII (EPA Approval of Plans), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Performing Settling Defendants of any deficiency; (2) with respect to a decision by the Director of the Office of Site Remediation and Restoration, EPA Region 1, under Paragraph 68 or 69 of Section XXI (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Performing Settling Defendants' reply to EPA's Statement of Position is received until the date that the Director issues a final decision regarding such dispute; or (3) with respect to judicial review by this Court of any dispute under Section XXI (Dispute Resolution), during the period, if any, beginning on the 31st day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous

accrual of separate penalties for separate violations of this Settlement Agreement and Consent Decree. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement and Consent Decree.

77. Following EPA's determination, after reasonable opportunity for review and comment by the State, that Settling Defendants have failed to comply with a requirement of this Settlement Agreement and Consent Decree, EPA may give Settling Defendants written notification of the same and describe the noncompliance. EPA and the State may send the Settling Defendants a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA, or the State for the obligations specified below in Paragraph 81, has notified the Settling Defendants of a violation.

78. All penalties owed to the United States and/or the State under this section shall be due and payable within 30 days of the Settling Defendants' receipt from EPA and/or the State of a demand for payment of the penalties, unless Settling Defendants invoke the Dispute Resolution procedures under Section XXI (Dispute Resolution). All payments to the United States under this Section shall be paid by certified check made payable to "EPA Hazardous Substances Superfund," shall be mailed to EPA Region 1, Attn: Superfund Accounting, P.O. Box 360197M,

Pittsburgh, PA 15251, and shall reference the EPA Region and Site/Spill ID #01-30. All payments to the State under this Section shall be made payable to "General Treasurer" (for deposit in the Environmental Response Fund) and shall be mailed to Director, RIDEM, 9 Hayes Street, Providence, RI 02908. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the United States and/or the State as provided in Section XXVIII (Notices and Submissions).

79. The payment of penalties shall not alter in any way Settling Defendants' obligation to complete the performance of the Work required under this Settlement Agreement and Consent Decree.

80. Penalties shall continue to accrue as provided in Paragraph 76 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to this Court, accrued penalties determined to be owing shall be paid to the United States and the State within 15 days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United States prevails in whole or in part, Settling Defendants shall pay only the amount of the accrued penalties determined by the Court to be owed to the United States and the State within 60

days of receipt of the Court's decision or order, except as provided in Subparagraph c below;

c. If the District Court's decision is appealed by any Party, Settling Defendants shall pay all accrued penalties determined by the District Court to be owing to the United States or the State into an interest-bearing escrow account within 60 days of receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every 60 days. Within 15 days of receipt of the final appellate court decision, the escrow agent shall pay the balance of the account to the United States and the State or to Settling Defendants to the extent that they prevail.

81. State Assessment of Stipulated Penalties. Assessment of stipulated penalties solely by the State shall be governed in the following manner. Following the State's determination that Settling Defendants have failed to pay Past Response Costs or Future Response Costs owed to the State as required by Section XVII (Reimbursement of Response Costs, Compensation for Natural Resource Damages and Payment of Penalty), the State may give Settling Defendants written notification of the same and describe the noncompliance. The provisions for liability, assessment and payment of the stipulated penalties referenced in this Paragraph shall be the same as provided in Paragraphs 76 through 80 of this Section, except that each reference to EPA shall read as a reference to RIDEM, each reference to the United States shall be read as a reference to the State, and each reference to the State

shall be read as a reference to the United States. The State shall receive 90% of the stipulated penalties received pursuant to this paragraph and the United States shall receive 10% of the stipulated penalties received pursuant to this paragraph.

82. If Settling Defendants fail to pay stipulated penalties when due, the United States or the State may institute proceedings to collect the penalties owed it/them, as well as interest. Settling Defendants shall pay interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 78 at the rate established pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607, with respect to the United States, and at the same rate with respect to the State.

83. Nothing in this Settlement Agreement and Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of the United States or the State to seek any other remedies or sanctions available by virtue of Settling Defendants' violation of this Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, and as to the State, pursuant to R.I. G.L. Chapters 23-19.1. Provided, however, that the United States and the State shall not seek civil penalties pursuant to Section 122(l) of CERCLA for any violation for which a stipulated penalty has been collected hereunder, except in the case of a willful violation of the Settlement Agreement and Consent Decree.

XXIII. COVENANTS NOT TO SUE BY PLAINTIFFS

84. a. In consideration of the actions that have been and will be performed and the payments that will be made by Performing Settling Defendants and Owner Settling Defendants under the terms of the Settlement Agreement and Consent Decree, and except as specifically provided in Paragraphs 85, 86, 88 and 89 of this Section, the United States, on behalf of the Administrator of EPA, the Secretary of the Interior, and the Administrator of the National Oceanic and Atmospheric Administration, covenants not to sue or to take other civil or administrative action against Performing Settling Defendants and Owner Settling Defendants pursuant to Sections 106 and 107(a) of CERCLA for reimbursement of Past Response Costs, Oversight Costs and Future Response Costs; compensation for damage to Natural Resources under the trusteeship of the Secretary of the Interior or the Administrator of the National Oceanic and Atmospheric Administration; for implementation of the Remedial Action relating to the Site; and for alleged non-compliance with the Unilateral Administrative Order through the date of the entry of this Settlement Agreement and Consent Decree. In consideration of the actions that have been and will be performed and the payments that will be made by Performing Settling Defendants and Owner Settling Defendants under the terms of the Settlement Agreement and Consent Decree, and except as specifically provided in Paragraphs 88, 89 and 90 of this Section, the State covenants not to sue or take other civil or administrative action against

Performing Settling Defendants and Owner Settling Defendants pursuant to Section 107 of CERCLA, and R.I.G.L. Chapters 42-17.1, 23-19.1 23-18.9, 23-23, 46-12, and 46-13.1, for reimbursement of Past Response Costs, Oversight Costs, and Future Response Costs; compensation for damage to Natural Resources under the trusteeship of the Director of RIDEM except for groundwater; and with respect to Landfill & Resource Recovery, Inc., and Truk-Away of R.I., Inc. for payment of contempt penalties for violations of the State Court Order through the date of entry of this Settlement Agreement and Consent Decree. Except with respect to future liability, these covenants not to sue shall take effect upon the receipt by the United States and the State of the payments required by Paragraph 52 of Section XVII (Reimbursement in Satisfaction of Claims) and Appendix G. With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 48.b. of Section XV (Certification of Completion). These covenants not to sue are conditioned upon the complete and satisfactory performance by Performing Settling Defendants and Owner Settling Defendants of their obligations under this Settlement Agreement and Consent Decree. These covenants not to sue extend only to the Performing Settling Defendants and Owner Settling Defendants and do not extend to any other person.

b. In consideration of the payments that have been made by the Cannons Defendants, and except as specifically provided in

Paragraphs 85, 86, 88(a) - (f) and 89 of this Section, the United States, on behalf of the Administrator of EPA, the Secretary of the Interior, and the Administrator of the National Oceanic and Atmospheric Administration, covenants not to sue or to take other civil or administrative action against the Cannons Defendants pursuant to Section 106 or 107(a) of CERCLA for reimbursement of Past Response Costs, Oversight Costs and Future Response Costs, compensation for damage to Natural Resources under the trusteeship of the Secretary of the Interior and the Administrator of the National Oceanic and Atmospheric Administration, and implementation of the Remedial Action relating to the Site. In consideration of the payments that have been made by the Cannons Defendants, and except as specifically provided in Paragraphs 88(a) - (f), 90 and 91, the State also covenants not to sue or take other civil or administrative action against the Cannons Defendants pursuant to Section 107 of CERCLA and R.I.G.L. Chapters 42-17.1, 23-19.1 23-18.9, 23-23, 46-12 and 46-13.1 for reimbursement of Past Response Costs, Oversight Costs and Future Response Costs, and compensation for damage to Natural Resources under the trusteeship of the Director of RIDEM except for groundwater. Except with respect to future liability, these covenants not to sue shall take effect upon entry of this Settlement Agreement and Consent Decree by the Court. With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 48.b. of Section XV (Certification

of Completion). These covenants not to sue extend only to the Cannons Defendants and do not extend to any other person. In order to induce the Plaintiffs to enter into this settlement, J. Robert Cannon and J. Scott Cannon each, by their signatures hereto, affirms under penalty or perjury, to the best of his knowledge and belief, the following:

(1) J. Robert Cannon and J. Scott Cannon have each provided to EPA all information requested in his respective possession, custody or control that relates in any way to the generation, treatment, transportation, storage or disposal of materials at or in connection with the Site;

(2) J. Robert Cannon and J. Scott Cannon have each provided EPA with all material information of which each is aware relating to his finances, assets, and all other matters related to the Cannons Defendants' resources available to reimburse the Plaintiffs' response costs at the Site;

(3) The information described in Subparagraphs (1) and (2) above is materially true and accurate; and

(4) With respect to the information provided to EPA by J. Robert Cannon and J. Scott Cannon as described in Subparagraph (2) above, neither J. Robert Cannon nor J. Scott Cannon possesses or knows of any other documents or information that would suggest that either one has in his possession, custody or control, other assets, income or any interests at all in property of any kind that could be used to reimburse the EPA Hazardous Substances Superfund or the State for response costs

incurred or to be incurred at the Site. This agreement may be voided by the Plaintiffs, and the covenant not to sue granted by the Plaintiffs shall become void and of no effect, in the event that the information provided by the Cannons Defendants referred to in this Paragraph is not substantially true, complete and correct. Any payments made by the Cannons Defendants under this Settlement Agreement and Consent Decree shall be credited against any future liabilities that may be imposed pursuant to this paragraph.

85. United States' Pre-certification reservations. Notwithstanding any other provision of this Settlement Agreement and Consent Decree, the United States reserves, and this Settlement Agreement and Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response if, prior to certification of completion of the Remedial Action:

a. conditions at the Site, previously unknown to EPA, are discovered, or

b. information, previously unknown to EPA, is received, in whole or in part,

and EPA determines, based on these previously unknown conditions or information together with any other relevant information,

that the Remedial Action is not protective of human health or the environment.

86. United States' Post-certification reservations. Notwithstanding any other provision of this Settlement Agreement and Consent Decree, the United States reserves, and this Settlement Agreement and Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response if, subsequent to certification of completion of the Remedial Action:

a. conditions at the Site, previously unknown to EPA, are discovered after the certification of completion, or

b. information, previously unknown to EPA is received, in whole or in part, after the certification of completion,

and EPA determines, based on these previously unknown conditions or this information, together with other relevant information, that the Remedial Action is not protective of human health or the environment.

87. For purposes of Paragraph 85, the information and the conditions known to EPA shall include only that information and those conditions set forth in the Record of Decision for the Site, the administrative record supporting the Record of

Decision, and the information received by EPA pursuant to the requirements of the UAO or included in the post-ROD administrative record pursuant to the requirements of the NCP up to the date of lodging of this Settlement Agreement and Consent Decree. For purposes of Paragraph 86, the information previously received by and the conditions known to EPA shall include only that information and those conditions set forth in the Record of Decision, the administrative record supporting the Record of Decision, the information received by EPA pursuant to the requirements of the UAO or included in the post-ROD administrative record pursuant to the requirements of the NCP and any information received by EPA pursuant to the requirements of this Settlement Agreement and Consent Decree prior to Certification of Completion of the Remedial Action.

88. General reservations of rights. The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraph 84. The United States and the State reserve, and this Settlement Agreement and Consent Decree is without prejudice to, all rights against Settling Defendants with respect to all other matters, including but not limited to, the following:

a. claims based on a failure by Settling Defendants to meet a requirement of this Settlement Agreement and Consent Decree;

b. liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site;

c. liability arising from the future disposal of Waste Materials at the Site, other than as provided in the ROD, the Work or otherwise ordered by EPA;

d. criminal liability;

e. liability for other violations of federal or state law;

f. liability for costs that the United States may incur related to the Site but are not within the definition of Future Response Costs or Oversight Costs;

g. liability, prior to Certification of Completion of the Remedial Action, for additional response actions that EPA determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Section VII; and

h. liability for remediation of groundwater related to the Site.

89. Reservations concerning natural resource injury. Notwithstanding any other provision of this Decree, the United States and the State, on behalf of any of their respective natural resource trustees, reserve the right to institute proceedings against Performing Settling Defendants and Owner Settling Defendants in this action or in a new action seeking recovery of Natural Resource Damages, based on (1) conditions with respect to the Site, unknown to the United States or the

State, as appropriate, at the date of lodging of this Decree, that result in releases of hazardous substances that contribute to injury to, destruction of, or loss of natural resources, or (2) information received after the date of lodging of this Settlement Agreement and Consent Decree which indicates that there is injury to, destruction of, or loss of natural resources of a type that was unknown, or of a magnitude greater than was known, to the United States or the State, as appropriate, at the date of the lodging of this Settlement Agreement and Consent Decree.

90. State's Pre-certification reservations. Notwithstanding any other provisions of this Settlement Agreement and Consent Decree, the State, on behalf of the Director of RIDEM, reserves, and this Settlement Agreement and Consent Decree is without prejudice to, any right jointly with, or separately from, the United States to institute proceedings in this action or in a new action (a) under Section 107 of CERCLA, 42 U.S.C. § 9607, or (b) under R.I.G.L. Chapters 42-17.1, and 23-19.1, seeking to compel all or any of the Settling Defendants (1) to perform other response activities or actions at the Site, or (2) to reimburse the State for additional response costs for response activities or actions at the Site, to the extent that EPA has determined that such activities or actions required under (1) and (2) above in this Paragraph will not significantly delay or be inconsistent with the Remedial Action, if, prior to Certification of Completion of the Remedial Action:

a. conditions at the Site, previously unknown to the State, are discovered or become known to the State, or

b. information previously unknown to the State is received by the State, in whole or in part,

and the RIDEM Director, or his or her delegate determines, pursuant to R.I.G.L. Chapters 42-13.1, and 23-19.1, based on these previously unknown conditions or this information together with any other relevant information that the response actions taken are inadequate to protect the public health or the environment. The United States reserves all rights it may have under applicable law, to oppose any determinations made or any actions taken, ordered or proposed by the State pursuant to this Paragraph.

91. State's Post-certification Reservations. Notwithstanding any other provision of this Settlement Agreement and Consent Decree, the State, on behalf of the Director of RIDEM, reserves, and this Settlement Agreement and Consent Decree is without prejudice to, the right jointly with, or separately from, the United States to institute proceedings in this action or in a new action: (a) under Section 107 of CERCLA, 42 U.S.C. § 9607, or (b) under R.I.G.L. Chapters 42-13.1, and 23-19.1, seeking to compel all or any of the Settling Defendants (1) to perform other response activities or actions at the Site, or (2) to reimburse the State for additional response costs for response activities or actions at the Site, to the extent that EPA has

determined that such activities or actions required under (1) and (2) above in this Paragraph will not significantly delay or be inconsistent with the Remedial Action, if, subsequent to Certification of Completion of Remedial Action:

a. conditions at the Site, previously unknown to the State, are discovered to become known after Certification of Completion, or

b. information previously unknown to the State is received by the State, in whole or in part, after Certification of Completion,

and the Director of RIDEM, or his or her delegate, determines pursuant to R.I.G.L. Chapters 42-17.1, and 23-19.1, based on these previously unknown conditions or this information together with any other relevant information, that the response actions taken are inadequate to protect the public health or the environment. The United States reserves all rights it may have under applicable law, to oppose any determinations made or any actions taken, ordered or proposed by the State pursuant to this Paragraph.

92. For purposes of Paragraph 90, the information and the conditions known to the State shall include only that information and those conditions set forth in the Record of Decision for the Site, the administrative record supporting the Record of Decision, and the information received by EPA pursuant to the requirements of the UAO or included in the post-ROD administrative record pursuant to the requirements of the NCP up

to the date of the lodging of this Settlement Agreement and Consent Decree. For purposes of Paragraph 91, the information previously received by and the conditions known to the State shall include only that information and those conditions set forth in the Record of Decision, the administrative record supporting the Record of Decision, the information received by EPA pursuant to the requirements of the UAO or included in the post-ROD administrative record pursuant to the requirements of the NCP and any information received by the State pursuant to the requirements of this Settlement Agreement and Consent Decree prior to Certification of Completion of the Remedial Action.

93. In the event EPA determines that Performing Settling Defendants and/or Owner Settling Defendants have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portions of the Work as EPA determines necessary. Performing Settling Defendants and/or Owner Settling Defendants may invoke the procedures set forth in Section XXI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Such dispute shall be resolved on the administrative record. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response

Costs that Settling Defendants shall pay pursuant to Section XVII (Reimbursement of Response Costs) and Appendix G.

94. Notwithstanding any other provision of this Settlement Agreement and Consent Decree, the United States and the State retain all authority and reserve all rights to take any and all response actions authorized by law.

XXIV. COVENANTS BY SETTLING DEFENDANTS

95. Settling Defendants hereby covenant not to sue and agree not to assert any claims or causes of action against the United States or the State, including any agency, department or instrumentality of the United States or the State, with respect to the Site or this Settlement Agreement and Consent Decree, including, but not limited to, the following:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Sections 107, 111, 112, 113 or otherwise any other provision of law;

b. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Section 106(b)(2) except that Performing Settling Defendants and Owner Settling Defendants reserve their rights to bring a claim pursuant to Section 106(b)(2) of CERCLA should the United States issue to the Performing Settling Defendants and Owner Settling Defendants any unilateral administrative order in connection with

the Site pursuant to Section 106 of CERCLA for response actions not covered by this Settlement Agreement and Consent Decree;

c. any claim under CERCLA Sections 106, 107 or 113 related to the Site;

d. any claims for costs, fees or expenses incurred in this action or related to the Site, including claims under 28 U.S.C. § 2412 (Equal Access to Justice Act), as amended;

e. any claim under the Constitution of the United States, the Tucker Act, 28 U.S.C. § 1491, or at common law, arising out of or relating to access to, institutional controls on or other restrictions on the use or enjoyment of, or response activities undertaken at the Site or at any parcels subject to the liens filed by EPA pursuant to Section 107 of CERCLA in Book 128, Page 717 and in Book 128, Page 723 of the Registry of Deeds for Providence County, Rhode Island; or

f. any claims arising out of response activities at the Site, including claims based on EPA's and the State's selection of response actions, oversight of response activities or approval of plans for such activities.

96. The Performing Settling Defendants reserve, and this Settlement Agreement and Consent Decree is without prejudice to, actions against the United States based on negligent actions taken directly by the United States (not including oversight or approval of the Performing Settling Defendants plans or activities) that are brought pursuant to any statute other than

CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA.

97. Nothing in this Settlement Agreement and Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

98. a. Upon lodging of this Settlement Agreement and Consent Decree, Settling Defendants who are plaintiffs in the civil action captioned Avnet, Inc. v. Amtel, Inc., C.A. 91-0383-B (D.R.I.), shall join the United States in seeking a stay of the appeal captioned as Avnet, Inc. v. Amtel, Inc., No. 95-1619 (1st Cir.), until such time as the Settlement Agreement and Consent Decree is entered or otherwise finally acted upon by the Court.

b. Within 5 days after entry of this Settlement Agreement and Consent Decree, Settling Defendants who are plaintiffs in the civil action captioned Avnet, Inc. v. Amtel, Inc., C.A. 91-0383-B (D.R.I.), shall file Motions to Dismiss, with prejudice, such civil action and the associated appeal. Each party shall bear its own costs associated with such filings. Such Settling Defendants who are not plaintiffs in such civil action agree not to oppose such motion to dismiss, and further agree not to bring any additional claims against the United States pursuant to any legal theory or statute, which in any way challenges the validity of, or the contribution protection afforded the settling parties to, the Administrative Order by Consent, U.S. EPA Docket No. I-91-1032, dated January 30, 1992.

c. Within 10 days after lodging of this Settlement Agreement and Consent Decree, Landfill & Resource Recovery, Inc. and RIDEM agree to file a notice in the State Court regarding the lodging of this Settlement Agreement and Consent Decree in the form set forth in Appendix F to this Settlement Agreement and Consent Decree. Within 10 days after entry of this Settlement Agreement and Consent Decree by the Court, Landfill & Resource Recovery, Inc. and RIDEM agree to file a joint motion to modify the State Court Order and to dismiss with prejudice the civil action captioned Landfill & Resource Recovery, Inc. v. Department of Environmental Management of the State of Rhode Island, C.A. No. 81-4091 (R.I. Sup. Ct.). Each party shall bear its own costs associated with such filings.

XXVI. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

99. Nothing in this Settlement Agreement and Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a party to this Settlement Agreement and Consent Decree. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this decree may have under applicable law. Each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a party hereto, except that Settling Defendants agree not to institute proceedings

against, or seek contribution or cost recovery of any kind from, parties to the Administrative Order by Consent in EPA Docket No. I-91-1032, dated January 30, 1992.

100. With regard to claims for contribution against Settling Defendants for reimbursement of the United States' and the State's Past Response Costs, payment of the United States' and the State's Future Response Costs, payment of Oversight Costs, compensation for damage to Natural Resources under the trusteeship of the Secretary of the Interior, and the Administrator of the National Oceanic and Atmospheric Administration, and the Director of RIDEM (except groundwater), and performance of the Work, the Parties hereto agree that except as provided in Paragraph 101 of this Settlement Agreement and Consent Decree, Settling Defendants are entitled to such protection from contribution actions or claims to the extent provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2).

101. Notwithstanding any other provision of this Settlement Agreement and Consent Decree to the contrary, Performing Settling Defendants and Owner Settling Defendants reserve, and this Settlement Agreement and Consent Decree is without prejudice to, the right to maintain or institute an action or actions either in court or in arbitration against the other for any claims arising from or associated with the Site or any work relating thereto, including without limitation, claims relating to obligations or defenses to such obligations under any agreement previously

entered into between the parties and claims for contribution pursuant to Section 113(f)(1) of CERCLA.

102. Settling Defendants agree that with respect to any suit or claim for contribution brought by them for matters related to this Settlement Agreement and Consent Decree they will notify the United States and the State in writing no later than 60 days prior to the initiation of such suit or claim. The obligation to provide notice under this Paragraph shall not extend to a suit or claim brought by one or more of the Settling Defendants against an insurance company seeking coverage for the costs incurred or to be incurred pursuant to the UAO or this Settlement Agreement and Consent Decree.

103. Settling Defendants also agree that with respect to any suit or claim for contribution brought against them for matters related to this Settlement Agreement and Consent Decree they will notify in writing the United States and the State within 10 days of service of the complaint on them. In addition, Settling Defendants shall notify the United States and the State within 10 days of service or receipt of any Motion for Summary Judgment and within 10 days of receipt of any order from a court setting a case for trial.

104. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Defendants shall not assert, and may not maintain, any defense or claim based upon the principles

of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XXIII (Covenants Not to Sue by Plaintiffs).

XXVI. ACCESS TO INFORMATION

105. Settling Defendants shall make available to Plaintiffs, upon request and within a reasonable period of time, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of the UAO or this Settlement Agreement and Consent Decree, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Settling Defendants shall also make available to Plaintiffs, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

106. Settling Defendants may assert business confidentiality claims covering part or all of the documents or information submitted to Plaintiffs under the UAO or this Settlement Agreement and Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. §

9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA and the State, or if EPA has notified Settling Defendants that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to Settling Defendants.

a. Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Defendants assert such a privilege in lieu of providing documents, they shall provide the Plaintiffs with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Settling Defendants. However, no documents, reports or other information created or generated pursuant to the requirements of the UAO or this Settlement Agreement and Consent Decree shall be withheld on the grounds that they are privileged.

107. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling,

analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XXVII. RETENTION OF RECORDS

108. Until 10 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 49.b. of Section XV (Certification of Completion of Work), each Settling Defendant shall preserve and retain all original and non-identical copies records and documents now in its possession or control or which come into its possession or control that relate in any manner to the performance of the UAO or the Work or liability of any person for response actions conducted and to be conducted at the Site, regardless of any corporate retention policy to the contrary. Until 10 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 49.b. of Section XV (Certification of Completion of the Work), Settling Defendants shall also instruct their contractors and agents to preserve all original and non-identical copies of documents, records, and information of whatever kind, nature or description relating to the performance of the Work.

109. At the conclusion of this document retention period, Settling Defendants shall notify the United States and the State in writing at least 90 days prior to the destruction of any such records or documents, and, upon request by the United States or the State, Settling Defendants shall deliver any such records or documents to EPA or the State. Settling Defendants may assert

that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Settling Defendants assert such a privilege, they shall comply with the requirements set forth in Paragraph 106. No documents, reports or other information created or generated pursuant to the requirements of the UAO or this Settlement Agreement and Consent Decree shall be withheld on the grounds that they are privileged. Settling Defendants shall retain all documents claimed to be privileged for an additional three years or until the final resolution of any dispute concerning the claim of privilege, whichever is longer.

110. Each Settling Defendant hereby certifies, individually, that it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability regarding the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Section 104(e) and 122(e) of CERCLA and Section 3007 of RCRA.

XXVIII. NOTICES AND SUBMISSIONS

111. Whenever, under the terms of this Settlement Agreement and Consent Decree, written notice is required to be given or a report or other document is required to be sent by one party to another, it shall be mailed to the individuals at the addresses

specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Settlement Agreement and Consent Decree with respect to the United States, EPA, the State, and the Settling Defendants, respectively.

As to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
Re: DOJ # 90-11-2-449B

and

Director
Office of Site Remediation and Restoration
United States Environmental Protection Agency
Region I
JFK Federal Building
Boston, MA 02203-2211

As to EPA:

Anna F. Krasko
EPA Remedial Project Manager/L&RR Superfund Site
United States Environmental Protection Agency
Region I
JFK Federal Building (HSV-CAN5)
Boston, MA 02203-2211

As to the State:

Warren F. Angell, II
Supervising Engineer
Division of Site Remediation
RIDEM
291 Promenade Street
Providence, RI 02908

and:

Claude Cote
RIDEM
Office of Legal Services
235 Promenade Street, 4th Floor
Providence, RI 02908

As to the Settling Defendants:

Settling Defendants' Project Coordinator:
de Maximis, Inc.
Attn: Jack McBurney
186 Center Street, Suite 290
Clinton, NJ 08809

Performing Settling Defendants:
Ropes & Gray
Attn: Colburn T. Cherney
1301 K Street, N.W.
Washington, D.C. 20005

Owner Settling Defendants:
Visconti & Boren, Ltd.
Attn: Girard R. Visconti
Dante J. Giammarco
55 Dorrance Street
Providence, RI 02903

The Cannons Defendants:
J. Robert Cannons
1343 Falmouth Road
Centerville, MA 02632

XXIX. EFFECTIVE DATE

112. The effective date of this Settlement Agreement and Consent Decree shall be the date upon which this Settlement Agreement and Consent Decree is entered by the Court, except as otherwise provided herein.

XXX. RETENTION OF JURISDICTION

113. This Court retains jurisdiction over both the subject matter of this Settlement Agreement and Consent Decree and the Settling Defendants for the duration of the performance of the terms and provisions of this Settlement Agreement and Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Settlement Agreement and Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XXI (Dispute Resolution) hereof. The Plaintiffs and the Cannons Defendants agree that the Cannons Engineering Corporation has properly been revived for purposes of this lawsuit.

XXXI. APPENDICES

114. The following appendices are attached to and incorporated into this Settlement Agreement and Consent Decree:

"Appendix A" is the ROD.

"Appendix B" is the SOW.

"Appendix C" is the description and/or map of the Site.

"Appendix D" is the complete list of the Performing Settling Defendants.

"Appendix E" is the complete list of the Owner Settling Defendants.

"Appendix F" is the form for notification to the State Court of the lodging of this settlement.

"Appendix G" is the Payment Procedures and Allocation.

"Appendix H" is the payment schedule for Oversight Costs.

"Appendix I" is the form for Notice of Consent Decree.

"Appendix J" is the License Agreement.

"Appendix K" is the set of descriptions of known property for which access and institutional controls are required.

XXXII. COMMUNITY RELATIONS

115. If requested by EPA, Settling Defendants shall cooperate with EPA and the State in providing information regarding the Work to the public. If requested by EPA or the State, Settling Defendants shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA or the State to explain activities at or relating to the Site.

XXXIII. MODIFICATION

116. Modification to schedules specified in this Settlement Agreement and Consent Decree for completion of the Work or non-material modifications to the Scope of Work may be made by agreement of EPA, after reasonable opportunity for review and comment by the State, and the Performing Settling Defendants.

All such modifications shall be made in writing and will become effective upon filing with the Court by the United States.

117. No material modifications shall be made to the SOW without written notification to and written approval of the United States, Performing Settling Defendants, and the Court. Prior to providing its approval to any modification, the United States will provide the State with a reasonable opportunity to review and comment on the proposed modification. Such modifications shall become effective upon approval by the Court. In the case of modifications to the SOW that would affect attainment of Performance Standards required by the Settlement Agreement and Consent Decree or the SOW, written notification to and approval of the State shall also be required. No material modifications to the Settlement Agreement and Consent Decree shall be made without written notification to and written approval of the United States, the State and Settling Defendants. Such modifications shall become effective upon approval by the Court.

118. Nothing in this Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Settlement Agreement and Consent Decree.

XXXIV. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

119. This Settlement Agreement and Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment consistent with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. §

50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Settlement Agreement and Consent Decree disclose facts or considerations which indicate that the Settlement Agreement and Consent Decree is inappropriate, improper, or inadequate. The State may withdraw or withhold its consent to the entry of this Settlement Agreement and Consent Decree if comments received disclose facts or considerations which show that the Settlement Agreement and Consent Decree violates state law. The United States reserves the right to challenge in Court the State's withdrawal from the Settlement Agreement and Consent Decree, including the right to argue that the requirements of state law have been waived, pre-empted or otherwise rendered inapplicable by federal law. The State reserves the right to oppose the United States' position taken in opposition to the proposed withdrawal. In addition, in the event of the United States' withdrawal from this Settlement Agreement and Consent Decree, the State reserves its right to withdraw from this Settlement Agreement and Consent Decree. Settling Defendants consent to the entry of this Settlement Agreement and Consent Decree.

120. If for any reason the Court should decline to approve this Settlement Agreement and Consent Decree in the form presented, this agreement is voidable at the sole discretion of any party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XXXV. SIGNATORIES/SERVICE

121. Each undersigned representative of a Settling Defendant to this Settlement Agreement and Consent Decree, the Assistant Attorney General for Environment and Natural Resources of the Department of Justice, and the Director of RIDEM certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement and Consent Decree and to execute and legally bind such party to this document.

122. Each Settling Defendant hereby agrees not to oppose entry of this Settlement Agreement and Consent Decree by this Court or to challenge any provision of this Settlement Agreement and Consent Decree unless the United States has notified the Settling Defendants in writing that it no longer supports entry of the Settlement Agreement and Consent Decree.

123. Each Settling Defendant shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of that party with respect to all matters arising under or relating to this Settlement Agreement and Consent Decree. Settling Defendants hereby agree to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local

rules of this Court, including, but not limited to, service of a summons.

SO ORDERED THIS _____ DAY OF _____, 19__.

_____
United States District Judge

THE UNDERSIGNED PARTIES enter into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., et al., relating to the Landfill & Resource Recovery Superfund Site.

FOR THE UNITED STATES OF AMERICA

Date: 1/28/97

Lois J. Shiffer
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: _____

Cynthia S. Huber
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
(202) 514-5273

Sheldon Whitehouse
United States Attorney
District of Rhode Island

Michael Iannotti
Assistant United States Attorney
District of Rhode Island
Westminster Square Building
10 Dorrance Street
Providence, RI 02903

United States v. Landfill & Resource Recovery, Inc.
Settlement Agreement and Consent Decree Signature Page

Date: 9/30/96

John P. DeVillars
Regional Administrator
U.S. Environmental Protection Agency
Region I
JFK Federal Building
Boston, MA 02203-2211

Date: 9/30/96

Gretchen Muench
Senior Enforcement Counsel
U.S. Environmental Protection Agency
Region I
JFK Federal Building
Boston, MA 02203-2211

United States v. Landfill & Resource Recovery, Inc.
Settlement Agreement and Consent Decree Signature Page

FOR THE STATE OF RHODE ISLAND

Date: Sept. 23 1996

R. Timothy
Director
Rhode Islan
Environme
9 Hayes Stre
Providence,

This page will be replaced w/ an ORIG.

The Undersigned party enters into the Settlement Agreement and Consent Decree in the matter of the United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

Witness:

Kathy J. Kotelle

Landfill & Resource Recovery, Inc.

By David J. Lauer
Its President
Vice

Date: 10/2/96, 1996

Agent Authorized to Accept Service on Behalf of Above-Signed Party:

Girard R. Visconti, Esquire
Visconti & Boren Ltd.
55 Dorrance Street
Providence, RI 02903

The Undersigned party enters into the Settlement Agreement and Consent Decree in the matter of the United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

Witness:

Kathy J. Kettelle

Truk-Away of R.I., Inc.

By Charles S. Wilson
Its President

Date: Oct 2, 1996

Agent Authorized to Accept Service on Behalf of Above-Signed Party:

Girard R. Visconti, Esquire
Visconti & Boren Ltd.
55 Dorrance Street
Providence, RI 02903

The Undersigned party enters into the Settlement Agreement and Consent Decree in the matter of the United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

Witness:

Kathy J. Kettelle

Charles S. Wilson

Charles S. Wilson

Date: Oct 2, 1996

Agent Authorized to Accept Service on Behalf of Above-Signed Party:

Girard R. Visconti, Esquire
Visconti & Boren Ltd.
55 Dorrance Street
Providence, RI 02903

The Undersigned party enters into the Settlement Agreement and Consent Decree in the matter of the United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

Witness:

Kathy J. Kottelle

David Wilson

Date: 10/2/96, 1996

Agent Authorized to Accept Service on Behalf of Above-Signed Party:

Girard R. Visconti, Esquire
Visconti & Boren Ltd.
55 Dorrance Street
Providence, RI 02903

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

Avnet, Inc.

Date: 9/6/96

David R. Birk
Senior Vice President
Avnet, Inc.
80 Cutter Mill Road
Great Neck, New York 11021

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:	David R. Birk
Title:	Senior Vice President
Address:	Avnet, Inc. 80 Cutter Mill Road Great Neck, New York 11021
Tel. Number:	(516) 466-7000

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United states v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR: General Dynamics Corporation

Date: 9/9/96

Daniel S. Hapke, Jr.
Assistant Secretary
75 Eastern Point Road
Groton, CT 06340

Agent Authorized to Accept Service on Behalf of Above-signed Party:

United States Corporation Company
84 State Street
Boston, MA 021098
(617) 523-3388

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of The United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

For: United Dominion Industries, Inc.

By: Thomas M. Hoban
Thomas M. Hoban
Its Attorney

Date: September 11, 1996

Agent Authorized to Accept Service of process on Behalf of Above-signed Party:

Thomas M. Hoban
Attorney at Law
313 South Main Street, rm. 313
Telephone: (603) 643-6906
Facsimile: (603) 643-5922

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR POLAROID CORPORATION */

Date: August 30, 1996

Richard F. deLima

Richard F. deLima
Vice President, Secretary and
General Counsel
549 Technology Square
Cambridge, MA 02139

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Sheldon W. Rothstein
Senior Corporate Attorney
575 Technology Square
Cambridge, MA 02139
617-386-2793

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*/ A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR: CCL CUSTOM MANUFACTURING, INC.

Date: _____

Bohdan I. Sirota
Secretary
CCL CUSTOM MANUFACTURING, INC.
6133 North River Road, Suite 800
Rosemont, Illinois 60018
USA

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Bohdan I. Sirota
CCL Industries Inc.
105 Gordon Baker Road
Willowdale, Ontario
Canada M2H 3P8

tel: (416) 756-8500

c/o CCL Industries Inc.
105 Gordon Baker Road
Willowdale, Ontario
Canada M2H 3P8

CONFIDENTIAL: FOR SETTLEMENT PURPOSES ONLY

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc. relating to the Landfill & Resource Recovery Superfund Site.

FOR STANLEY-BOSTITCH, INC.

Date: September 13, 1996

Stephen S. Weddle
Secretary
1000 Stanley Drive
New Britain, CT 06053

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:	The Corporation Trust Co.
Address:	Corporation Trust Center 1209 Orange Street Wilmington, DE 19801
Tel. No.	(302) 658-7581/7583

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recover, Inc., relating to the Landfill & Resource Recovery Superfund Site.

CORNING INCORPORATED

Date: 9/16/96

By: _____

David G. Lyons
Engineering Manager
Environmental and Engineering Services

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Colburn T. Cherney, Esq.
Title:
Address: Ropes & Gray, 1301 K St., NW, Washington, DC 20005
Telephone: (202) 626-3900

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

For The Dexter Corporation

Date: September 16 , 1996

Name: Bruce H. Beatt
Title: Vice President, General Counsel & Secret
Address: One Elm Street
Windsor Locks, CT 06096
Tel.: (860) 292-7601

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: c/o C T Corporation
Title: ---
Address: One Commercial Plaza
Hartford, CT 06103

Tel. Number: (860) 724-9044

*/ A separate signature page must be signed by each corporation individual or other legal entity that is settling with the United States.

dxlrcds1.doc

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR Waste Management of Massachusetts, Inc.
(Goditt & Boyer, Inc.)

Date: September 16, 1996

Stephen T. Joyce
Authorized Agent
Waste Management, Inc.
4 Liberty Lane West
Hampton, NH 03842
Phone: 603-929-3490
Fax: 603-929-3152

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:	Michael Brennan, Esquire
Title:	Group Environmental Counsel
Address:	Waste Management, Inc. Three Greenwood Square 3329 Street Road Bensalem, PA 19020
Phone:	215-633-2450

*/ A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR Clean Harbors of Braintree, Inc.,
formerly known as Recycling Industries, Inc.

Date: September 16, 1996

Stephen T. Joyce
Authorized Agent
Waste Management, Inc.
4 Liberty Lane West
Hampton, NH 03842
Phone: 603-929-3490
Fax: 603-929-3152

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:	Michael Brennan, Esquire
Title:	Group Environmental Counsel
Address:	Waste Management, Inc Three Greenwood Square 3329 Street Road Bensalem, PA 19020
Phone:	215-633-2450

*/ A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR BOSTON EDISON COMPANY

Date: 9/19/96

Ronald A. Ledgett
Senior Vice President
Boston Edison Company
800 Boylston Street
Boston, MA 02199

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name:	Jeffrey N. Stevens, Esq.
Title:	Senior Counsel
Address:	Boston Edison Company, 800 Boylston St., Boston, MA 02199
Tel. No.:	(617) 424-3955

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consent Decree in the matter of United States v. Landfill & Resource Recovery, Inc., relating to the Landfill & Resource Recovery Superfund Site.

FOR OLIN CORPORATION/COMPANY, INC./

Date: 9/20/96

Name Curt M. Richards
Title DIRECTOR, ENVIRONMENTAL REMEDIATION
Address 9401 MAGICAL VIEW
CHATTANOOGA, TN 37421

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: **Jerry Ronecker, Esq.**
Title:
Address: **Husch & Eppenberger**
100 North Broadway, Suite 1300
St. Louis, MO 63102

Tel. Number: **314-622-0634**

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consenst Decree in thematter of United Sttes v. Landfill & Resource Recover, Inc., relating to the Landfill & Resource Recovery Superfund Site.

Date: Sept. 24, 1996

J. Scott Cannon,

J. Scott Cannon
1343 Falmouth Road
Centerville, MA 02632
(508) 775-1489

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: J. Scott Cannon
Address: 1343 Falmouth Road
Centerville, MA 02632
(508) 775-1489

THE UNDERSIGNED PARTY enters into this Settlement Agreement and Consenst Decree in thematter of United Sttes v. Landfill & Resource Recover, Inc., relating to the Landfill & Resource Recovery Superfund Site.

J. Robert Cannon,

Date: 9/25/96

J. Robert Cannon
1343 Falmouth Road
Centerville, MA 02632
(508) 775-1489

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: J. Robert Cannon
Address: 1343 Falmouth Road
Centerville, MA 02632
(508) 775-1489

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA,

Plaintiff,

v.

LANDFILL & RESOURCE RECOVERY, INC., TRUK-AWAY OF RI, INC., CHARLES S. WILSON, DAVID J. WILSON, AVNET, INC., BOSTON EDISON COMPANY, CCL CUSTOM MANUFACTURING, INC., CLEAN HARBORS OF BRAINTREE, CORNING INCORPORATED, GENERAL DYNAMICS CORPORATION, OLIN CORPORATION, POLAROID CORPORATION, STANLEY BOSTICH, INC., THE DEXTER CORPORATION, UNITED DOMINION INDUSTRIES, INC., WASTE MANAGEMENT OF MASSACHUSETTS, INC., J. SCOTT CANNON, AND J. ROBERT CANNON,

Defendants.

Civil Action No.

CA 97 078 ML

COMPLAINT

The United States of America, by and through the undersigned attorneys, by authority of the Attorney General and acting at the request of the Administrator of the Environmental Protection Agency ("EPA"), alleges:

STATEMENT OF THE CASE

1. This is a civil action under Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606 and 9607.

2. The United States in its complaint seeks: (a) reimbursement of costs incurred and to be incurred by EPA and the

90-11-2-449B

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA

v. C.A. No. 97-076

LANDFILL & RESOURCE RECOVERY, INC., et al.

STATE OF RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

v. C.A. No. 97-076

LANDFILL & RESOURCE RECOVERY INC., et al.

ORDER

The United States of America's and the Rhode Island Department of Environmental Management's joint motion for entry of the Consent Decree is hereby GRANTED. The Clerk is directed to enter the Consent Decree as final judgment in both C.A. No. 97-076 and C.A. No. 97-078.

By Order,

Deputy Clerk

ENTER:

Ernest C. Torres
United States District Judge

Date: 10/8/97

9

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA, Plaintiff, v. LANDFILL & RESOURCE RECOVERY, INC., TRUK-AWAY OF RI, INC., CHARLES S. WILSON, DAVID J. WILSON, AVNET, INC., BOSTON EDISON COMPANY, CCL CUSTOM MANUFACTURING, INC., CLEAN HARBORS OF BRAINTREE, CORNING INCORPORATED, GENERAL DYNAMICS CORPORATION, OLIN CORPORATION, POLAROID CORPORATION, STANLEY BOSTICH, INC., THE DEXTER CORPORATION, UNITED DOMINION INDUSTRIES, INC., WASTE MANAGEMENT OF MASSACHUSETTS, INC., J. SCOTT CANNON, AND J. ROBERT CANNON, Defendants.	Civil Action No. NOTICE OF LODGING OF SETTLEMENT AGREEMENT AND CONSENT DECREE

Notice is hereby given that on this date a Settlement Agreement and Consent Decree ("Consent Decree") has been lodged with the Court in the above-referenced action. Pursuant to 42 U.S.C. § 9622(d), and 28 C.F.R. § 50.7, the Consent Decree will be published in the Federal Register and be subject to public comment for a period of thirty days. Thereafter, the United States will evaluate any comments to determine whether to go forward with the settlement. Any comments and the United States' responses thereto will be filed with the Court at the same time as it seeks entry of the Decree or to withdraw from the

settlement. No action is required of the Court until such time as the United States files its motion.

Respectfully submitted,

Lois J. Schiffer
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

Cynthia S. Huber
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
(202)514-5273

Sheldon Whitehouse
United States Attorney
District of Rhode Island

Michael Iannotti
Assistant United States Attorney
District of Rhode Island

OF COUNSEL:
M. Gretchen Muench
EPA Region 1
Boston, MA 02203

U.S. Department of Justice
Environment and Natural Resources Division
Environmental Enforcement Section

Benjamin Franklin Station
P.O. Box 7611
Washington, D.C. 20044-7611
Tel. (202)514-5273

90-11-2-827

February 12, 1997

BY FEDERAL EXPRESS
Michael Iannotti, Esq.
Assistant United States Attorney
District of Rhode Island
10 Dorrance Street, 10th Floor
Providence, RI 02903

Re: United States v. Landfill & Resource Recovery, Inc., et al.

Dear Mike:

Enclosed is the original signed complaint, notice of lodging and consent decree in the above-captioned enforcement action. This is a civil action under Sections 106 and 107 of the Comprehensive Environmental Response Compensation and Liability Act, as amended, 42 U.S.C. §§ 9606, 9607, for recovery of costs, injunctive relief, and civil penalties for violations of a Unilateral Administrative Order relating to the Landfill & Resource Recovery Site located in North Smithfield, Rhode Island. The L&RR Site consists of a former landfill facility owned by Landfill and Resource Recovery, Inc., which historically received domestic, commercial and industrial wastes. The landfill covers about 28 acres of a 36 acre parcel. Waste disposal at the Site may have begun as early as the late 1920's; in earnest in 1969. There is no good estimate of the total volume of waste that was disposed of at the Site. Based on Rhode Island Department of Health Manifests and other documentation, EPA estimates that more than two (2) million gallons of waste, which included hazardous substances, was accepted for disposal at the landfill between March 1977 and September 1979. The landfill ceased operating in 1985.

As a result of the operations at the Site it has become contaminated with a variety of hazardous substances. The hazardous substances found at the Site include a variety of volatile organic compounds and metals. The proposed defendants and settlers are the owners/operators of the Site, twelve generators and transporters of hazardous substances disposed of at the Site, and two ability to pay parties. The State of Rhode Island is joining this settlement and will file a separate complaint.

Under the terms of the proposed settlement, the ability to pay settlers have paid $60,000. The remaining settlers will pay past costs of $675,000, pay future oversight costs up to $1,164,000, complete operation and maintenance of the remedial action, pay $200,000 to the Department of Interior for natural resource damages, pay a civil penalty of $400,000 for noncompliance with the UAO, and implement a supplemental environmental project in the amount of $525,000 to purchase wetlands or related property within the Blackstone River Valley National Heritage Corridor. In conjunction with previous settlement recoveries related to the Site and the performance of the remedial action by the settlers, this settlement will result in a recovery of about 97% of expected Site costs.

As we discussed, I would appreciate if you would sign and file this complaint and the notice of lodging and lodge the consent decree. A file stamped copy of the Notice of Lodging, cover sheet of the Consent Decree, the Summons and Complaint should be sent to me when the complaint is filed and the consent decree lodged. I also would appreciate if someone from your office would telephone me to confirm the date that the matter is filed and the docket number so that I may forward the Federal Register Notice for publication. Under the terms of the Decree, the parties agree to accept service by mail. Given the volume of documents, I am trying to reach you to discuss how we should serve the documents.

Thank you for your cooperation in this matter. I look forward to working with you again in the future.

Sincerely yours,

Assistant Attorney General
Environment and Natural Resources
Division

By: Cynthia S. Huber
Senior Attorney
Environmental Enforcement Section

cc: M. Gretchen Muench

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA and STATE OF RHODE ISLAND, **Plaintiffs,** **v.** **LANDFILL & RESOURCE RECOVERY INC., et al.,** **Defendants.**	**CIVIL ACTION NO.** **CA 97 078 ML**

SETTLEMENT AGREEMENT AND CONSENT DECREE

CIVIL COVER SHEET

The JS-44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

I (a) PLAINTIFFS

United States of America

DEFENDANTS

CA 97 078 NL

Landfill & Resource Recovery, Inc., et al.

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF _____ (EXCEPT IN U.S. PLAINTIFF CASES)

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT _____ (IN U.S. PLAINTIFF CASES ONLY)
NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED

RECEIVED
CLERK
U. S. DISTRICT COURT
DISTRICT OF R. I.

(c) ATTORNEYS (FIRM NAME, ADDRESS, AND TELEPHONE NUMBER)

Michael P. Iannotti, Asst US Atty.
10 Dorrance Street, 10th Fl
Providence, RI 02903
phone(401)528-5477 fax(401)528-5522

ATTORNEYS (IF KNOWN)

II. BASIS OF JURISDICTION (PLACE AN X IN ONE BOX ONLY)

- ☐ 1 U.S. Government Plaintiff
- ☐ 2 Federal Question (U.S. Government Not a Party)
- ☐ 3 U.S. Government Defendant
- ☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (For Diversity Cases Only) (PLACE AN X IN ONE BOX FOR PLAINTIFF AND ONE BOX FOR DEFENDANT)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated or Principal Place of Business in This State	☐ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated and Principal Place of Business in Another State	☐ 5	☐ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. CAUSE OF ACTION (CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE A BRIEF STATEMENT OF CAUSE. DO NOT CITE JURISDICTIONAL STATUTES UNLESS DIVERSITY.)

CERCLA 42 U.S.C. Section 9606 et. seq.

V. NATURE OF SUIT (PLACE AN X IN ONE BOX ONLY)

CONTRACT	TORTS		FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
☐ 110 Insurance	PERSONAL INJURY	PERSONAL INJURY	☐ 610 Agriculture	☐ 422 Appeal 28 USC 158	☐ 400 State Reapportionment
☐ 120 Marine	☐ 310 Airplane	☐ 362 Personal Injury-Med. Malpractice	☐ 620 Other Food & Drug	☐ 423 Withdrawal 28 USC 157	☐ 410 Antitrust
☐ 130 Miller Act	☐ 315 Airplane Product Liability	☐ 365 Personal Injury-Product Liability	☐ 625 Drug Related Seizure of Property 21 USC 881	PROPERTY RIGHTS	☐ 430 Banks and Banking
☐ 140 Negotiable Instrument	☐ 320 Assault, Libel & Slander	☐ 368 Asbestos Personal Injury Product Liability	☐ 630 Liquor Laws	☐ 820 Copyrights	☐ 450 Commerce/ICC Rates/etc.
☐ 150 Recovery of Overpayment & Enforcement of Judgment	☐ 330 Federal Employers' Liability		☐ 640 R.R. & Truck	☐ 830 Patent	☐ 460 Deportation
☐ 151 Medicare Act	☐ 340 Marine		☐ 650 Airline Regs	☐ 840 Trademark	☐ 470 Racketeer Influenced and Corrupt Organizations
☐ 152 Recovery of Defaulted Student Loans (Excl. Veterans)	☐ 345 Marine Product Liability		☐ 660 Occupational Safety/Health	LABOR	☐ 810 Selective Service
☐ 153 Recovery of Overpayment of Veteran's Benefits	☐ 350 Motor Vehicle		☐ 690 Other	☐ 710 Fair Labor Standards Act	SOCIAL SECURITY
☐ 160 Stockholders' Suits	☐ 355 Motor Vehicle Product Liability			☐ 720 Labor/Mgmt. Relations	☐ 861 HIA (1395ff)
☐ 190 Other Contract	☐ 360 Other Personal Injury			☐ 730 Labor/Mgmt. Reporting & Disclosure Act	☐ 862 Black Lung (923)
☐ 195 Contract Product Liability				☐ 740 Railway Labor Act	☐ 863 DIWC/DIWW (405(g))
REAL PROPERTY	CIVIL RIGHTS	PRISONER PETITIONS		☐ 790 Other Labor Litigation	☐ 864 SSID Title XVI
☐ 210 Land Condemnation	☐ 441 Voting	☐ 510 Motions to Vacate Sentence		☐ 791 Empl. Ret. Inc. Security Act	☐ 865 RSI (405(g))
☐ 220 Foreclosure	☐ 442 Employment	☐ 530 Habeas Corpus			FEDERAL TAX SUITS
☐ 230 Rent Lease & Ejectment	☐ 443 Housing/Accommodations	☐ 535 Death Penalty			☐ 870 Taxes (U.S. Plaintiff or Defendant)
☐ 240 Torts to Land	☐ 444 Welfare	☐ 540 Mandamus & Other			☐ 871 IRS—Third Party 26 USC 7609
☐ 245 Tort Product Liability	☐ 440 Other Civil Rights	☐ 550 Civil Rights			
☐ 290 All Other Real Property		☐ 555 Prison Condition			

VI. ORIGIN (PLACE AN X IN ONE BOX ONLY)

- ☐ 1 Original Proceeding
- ☐ 2 Removed from State Court
- ☐ 3 Remanded from Appellate Court
- ☐ 4 Reinstated or Reopened
- ☐ 5 Transferred from another district (specify)
- ☐ 6 Multidistrict Litigation
- ☐ 7 Appeal to District Judge from Magistrate Judgment

VII. REQUESTED IN COMPLAINT: CHECK IF THIS IS A CLASS ACTION ☐ UNDER F.R.C.P. 23 **DEMANDED $** Check YES only if demanded in complaint. JURY DEMAND: ☐ YES ☐ NO

VIII. RELATED CASE(S) IF ANY (See instructions) JUDGE _____ DOCKET NUMBER _____

DATE 2-18-97 SIGNATURE OF ATTORNEY OF RECORD Michael P. Iannotti

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA,

Plaintiff,

v.

LANDFILL & RESOURCE RECOVERY, INC., TRUK-AWAY OF RI, INC., CHARLES S. WILSON, DAVID J. WILSON, AVNET, INC., BOSTON EDISON COMPANY, CCL CUSTOM MANUFACTURING, INC., CLEAN HARBORS OF BRAINTREE, CORNING INCORPORATED, GENERAL DYNAMICS CORPORATION, OLIN CORPORATION, POLAROID CORPORATION, STANLEY BOSTICH, INC., THE DEXTER CORPORATION, UNITED DOMINION INDUSTRIES, INC., WASTE MANAGEMENT OF MASSACHUSETTS, INC., J. SCOTT CANNON, AND J. ROBERT CANNON,

Defendants.

Civil Action No.

CA 97 078 ML

NOTICE OF LODGING OF SETTLEMENT AGREEMENT AND CONSENT DECREE

Notice is hereby given that on this date a Settlement Agreement and Consent Decree ("Consent Decree") has been lodged with the Court in the above-referenced action. Pursuant to 42 U.S.C. § 9622(d), and 28 C.F.R. § 50.7, the Consent Decree will be published in the Federal Register and be subject to public comment for a period of thirty days. Thereafter, the United States will evaluate any comments to determine whether to go forward with the settlement. Any comments and the United States' responses thereto will be filed with the Court at the same time as it seeks entry of the Decree or to withdraw from the

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF RHODE ISLAND

UNITED STATES OF AMERICA, Plaintiff, v. LANDFILL & RESOURCE RECOVERY, INC., TRUK-AWAY OF RI, INC., CHARLES S. WILSON, DAVID J. WILSON, AVNET, INC., BOSTON EDISON COMPANY, CCL CUSTOM MANUFACTURING, INC., CLEAN HARBORS OF BRAINTREE, CORNING INCORPORATED, GENERAL DYNAMICS CORPORATION, OLIN CORPORATION, POLAROID CORPORATION, STANLEY BOSTICH, INC., THE DEXTER CORPORATION, UNITED DOMINION INDUSTRIES, INC., WASTE MANAGEMENT OF MASSACHUSETTS, INC., J. SCOTT CANNON, AND J. ROBERT CANNON, Defendants.	Civil Action No.

COMPLAINT

The United States of America, by and through the undersigned attorneys, by authority of the Attorney General and acting at the request of the Administrator of the Environmental Protection Agency ("EPA"), alleges:

STATEMENT OF THE CASE

1. This is a civil action under Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606 and 9607.

2. The United States in its complaint seeks: (a) reimbursement of costs incurred and to be incurred by EPA and the

Department of Justice for response actions at the Landfill & Resource Recovery Superfund Site in North Smithfield, Rhode Island (the "Site"), together with accrued interest; (b) performance of response work by the Defendants at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP"); and (c) assessment of civil penalties for certain of the Defendants' failure to comply with a unilateral administrative order.

JURISDICTION AND VENUE

3. This Court has jurisdiction over the subject matter of this action and over the Defendants pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and 42 U.S.C. §§ 9606(a), 9607(a), and 9613(b).

4. Venue is proper in this district pursuant to 42 U.S.C. §§ 9606(a) and 9613(b), and 28 U.S.C. §§ 1391 and 1395, because the claims arose and the threatened and actual releases of hazardous substances occurred in the District of Rhode Island.

DEFENDANTS

5. Defendant Landfill & Resource Recovery, Inc. ("L&RR") is a Rhode Island corporation. Since 1974, L&RR has owned that part of the Site comprised of a parcel of land of about 36 acres located on Oxford Turnpike in North Smithfield, Rhode Island on which the landfill is located. At all relevant times, L&RR was an operator of the landfill at the Site.

6. Defendant Truk-Away of RI, Inc. ("Truk-Away") is a Rhode Island corporation with a place of business at 65 O'Keefe

Lane, Warwick, Rhode Island. Truk-Away was at all relevant times engaged in various businesses, including collection and transportation of waste. Truk-Away transported waste materials, including hazardous substances, to the Site.

7. Defendant Charles S. Wilson resides at 215 Cedar Street, East Greenwich, Rhode Island. Charles Wilson is and has been at all relevant times the President of Truk-Away and L&RR and also Secretary of L&RR. On information and belief, Charles Wilson operated the landfill at all relevant times.

8. Defendant David J. Wilson resides at 215 Blair Drive, Warwick, Rhode Island. David Wilson is and has been at all relevant times the Vice-President and Treasurer of Truk-Away and L&RR. On information and belief, David Wilson operated the landfill at all relevant times.

9. Defendant Avnet, Inc. is a New York corporation. Avnet has succeeded to the liabilities of Miller Electric Company and Carol Cable Company, two former divisions of Avnet, Inc. On information and belief, Miller Electric and Carol Cable operated facilities at Woonsocket, Rhode Island and Lincoln, Rhode Island, respectively, which arranged for the disposal of waste containing hazardous substances at the Site.

10. Boston Edison Company is a Massachusetts corporation with a place of business at 800 Boylston Street, Boston, Massachusetts. Boston Edison arranged for the disposal of waste containing hazardous substances at the Site from its

Mystic Generating Station in Everett, Massachusetts and its New Boston Generating Station, in Boston Massachusetts.

11. CCL Custom Manufacturing, Inc. is a Texas corporation formerly known as Peterson/Puritan and with a place of business on Martin Street, Cumberland, Rhode Island. Peterson/Puritan arranged for the disposal of waste containing hazardous substances at the Site from its Cumberland facility.

12. Clean Harbors of Braintree is a Massachusetts corporation with a place of business in Braintree, Massachusetts. Clean Harbors has succeeded to the liabilities of Recycling Industries, Inc. Recycling Industries, Inc. operated a facility in Braintree which arranged for the disposal of waste containing hazardous substances at the Site. Recycling Industries, Inc. transported waste containing hazardous substances to the Site.

13. Corning Incorporated is a Delaware corporation formerly known as Corning Glass Works. Corning operated a facility at Central Falls, Rhode Island which arranged for the disposal of waste containing hazardous substances at the Site.

14. General Dynamics Corporation is a Delaware corporation. The Electric Boat Division of General Dynamics has a place of business in North Kingston, Rhode Island. General Dynamics through its Electric Boat Division operated a facility at Quonset Point in North Kingston which arranged for the disposal of waste containing hazardous substances at the Site.

15. Olin Corporation, formerly known as Philip A. Hunt Chemical Corporation, is a Delaware corporation with a place of

business at Stamford, Connecticut. Olin has succeeded to the liabilities of Philip A. Hunt Chemical Corporation. Philip A. Hunt Chemical Corporation operated a facility at East Providence, Rhode Island which arranged for the disposal of waste containing hazardous substances at the Site.

16. Polaroid Corporation is a Delaware corporation. Polaroid operated a facility at Waltham, Massachusetts which arranged for the disposal of waste containing hazardous substances at the Site.

17. Stanley Bostich, Inc. is a Delaware corporation with a place of business in East Greenwich, Rhode Island. Stanley Bostich operated a facility at Briggs Drive, Route Two in East Greenwich which arranged for the disposal of waste containing hazardous substances at the Site.

18. The Dexter Corporation is a Connecticut corporation with a place of business on Canal Bank Road, Windsor Locks, Connecticut. The NonWovens Division of Dexter arranged for the disposal of waste containing hazardous substances from its Canal Banks Road facility at the Site.

19. United Dominion Industries, Inc. is a Delaware corporation. United Dominion has succeeded to the liabilities of Continental Screw. Continental Screw operated a facility at New Bedford, Massachusetts which arranged for the disposal of waste containing hazardous substances at the Site.

20. Waste Management of Massachusetts, Inc. is a Massachusetts corporation with a place of business in Woburn,

Massachusetts. Waste Management has succeeded to the liabilities of Goditt & Boyer, Inc. Goditt & Boyer, Inc. operated a facility at Attleboro, Massachusetts. Goditt & Boyer transported waste containing hazardous substances to the Site.

21. J. Scott Cannon resides at 1343 Falmouth Road, Centerville, Massachusetts. J. Scott Cannon was at all relevant times a principal of the Cannons Engineering Corporation ("CEC"). CEC operated a hazardous substances storage and incineration facility in Bridgewater, Massachusetts from 1974 to 1980. CEC transported waste containing hazardous substances to the Site. On information and belief, J. Scott Cannon operated CEC.

22. J. Robert Cannon resides at 1343 Falmouth Road, Centerville, Massachusetts. J. Robert Cannon was at all relevant times a principal of CEC. On information and belief, J. Robert Cannon operated CEC.

THE SITE

23. The landfill at the Site was approximately 28 acres in size and was a former sand and gravel pit. On information and belief, the landfill began to accept wastes for disposal in about 1969. L&RR purchased the Site, including the landfill in 1974.

24. On information and belief, sometime after 1974, L&RR began to accept industrial wastes containing hazardous substances for disposal at the Site.

25. In 1983, pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities

List, set forth at 40 C.F.R. Part 300, Appendix B. The National Priorities List is a national list of hazardous wastes sites posing the greatest threat to health, welfare, and the environment.

26. Pursuant to 40 C.F.R. § 300.430, EPA conducted a Remedial Investigation and Feasibility Study ("RI/FS") for the Site from 1986 - 1988. Hazardous substances found at and in the vicinity of the Site during the RI/FS include volatile organic compounds and metals such as arsenic, benzene, cadmium, carbon tetrachloride, chloroform, 1,2-dichloroethane, lead, methylene chloride, trichloroethene, tetrachloroethene, and zinc. The decision by EPA on the remedial action to be implemented for the Site is embodied in the Record of Decision ("ROD"), executed on September 29, 1988. The ROD was modified by an Explanation of Significant Differences ("ESD"), executed on March 8, 1991. The ROD was further modified by an ESD executed on September 16, 1996. The 1988 ROD, the 1991 ESD and the 1996 ESD are collectively referred to herein as the "ROD".

27. There were and continue to be releases and threatened releases, within the meaning of Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), of hazardous substances at the Site.

28. The Site is a facility within the meaning of Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

29. Hazardous substances, within the meaning of Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), have been

disposed of at the Site. Such hazardous substances have been found at the Site.

30. Pursuant to Sections 104(e) and 106(a) of CERCLA, 42 U.S.C. §§ 9604(e) and 9606(a), EPA Region 1 issued a Unilateral Administrative Order (U.S. EPA Docket No. I-90-1085) on June 29, 1990, for performance of response actions at the Site. The Order became effective on September 19, 1990. The Order was modified in October 1990 and again in January 1992. The original Order and the amendments thereto are collectively referred to herein as the "UAO". The UAO was issued to, among others, L&RR, Truk-Away, Charles Wilson, David Wilson, Avnet, Boston Edison, Clean Harbors, Corning, General Dynamics, Olin, Polaroid, Stanley Bostich, Dexter, and AMCA International Corporation (Continental Screw) (collectively the "UAO Respondents").

31. The UAO Respondents have been performing remedial activities pursuant to the UAO.

32. The United States has incurred at least $3,558,648.90 in response costs (including interest), which costs were not inconsistent with the National Contingency Plan, to respond to the releases or threatened releases of hazardous substances at the Site. The United States has been reimbursed for some of these costs by potentially responsible parties other than the Defendants.

FIRST CLAIM FOR RELIEF

33. Paragraphs 1-29 and 32 are realleged and incorporated herein by reference.

34. Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), provides in pertinent part:

> (1) the owner and operator of a vessel or a facility,
>
> (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
>
> (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person ..., and
>
> (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, ... or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, shall be liable for--
>
> > (A) all costs of removal or remedial action incurred by the United States Government or a State not inconsistent with the national contingency plan....

35. Defendants L&RR, Truk-Away, Charles Wilson and David Wilson are liable under Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1), as the owners or operators of a facility. Each such Defendant is liable under Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2), as the owner or operator of a facility at the time of the disposal of hazardous substances.

36. Defendants Avnet, Boston Edison, CCL, Clean Harbors, Corning, General Dynamics, Olin, Polaroid, Stanley Bostich, Dexter and United Dominion are liable under Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3), as persons who arranged for the disposal of hazardous substances at the L&RR Site.

37. Defendants Truk-Away, Clean Harbors, Waste Management, J. Scott Cannon, and J. Robert Cannon are liable under Section 107(a)(4) of CERCLA, 42 U.S.C. § 9607(a)(4), as persons who accepted hazardous substances for transport to the Site for disposal and selected the Site for such disposal.

38. The Defendants are jointly and severally liable to the United States pursuant to CERCLA Section 107(a), 42 U.S.C. § 9607(a), for all unrecovered response costs incurred by the United States in connection with the L&RR Site.

SECOND CLAIM FOR RELIEF

39. Paragraphs 1-30 are realleged and incorporated herein by reference.

40. Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), provides in pertinent part:

> [W]hen the President determines that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility, he may . . . secure such relief as may be necessary to abate such danger or threat . . .. The President may also, after notice to the affected State, take other action under this section including, but not limited to, issuing such

> orders as may be necessary to protect public health and welfare and the environment.

41. The President, through his delegate, the Regional Administrator of the U.S. EPA Region I, has determined that there is or may be an imminent and substantial endangerment to the public health or welfare or the environment at the Site related to the Site.

42. Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), authorizes the United States to bring an action to secure such relief as may be necessary to abate the danger or threat at the Site.

43. The Defendants are liable to the United States to abate the danger or threat at the Site.

THIRD CLAIM FOR RELIEF

44. Paragraphs 1-31 are realleged and incorporated herein by reference.

45. Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), provides that

> Any person who, without sufficient cause, willfully violates, or fails or refuses to comply with, any order of the President under subsection (a) of this section may, in an action brought in the appropriate United States district court to enforce such order, be fined not more than $25,000 for each day in which such violation occurs or such failure to comply continues.

46. EPA determined that the release and threat of release of hazardous substances to the environment at and from the L&RR Site may present an imminent and substantial endangerment to the public health or welfare or the environment

within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

47. Based upon the determination of imminent and substantial endangerment, EPA issued the UAO pursuant to the authority of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), to among others, the UAO Respondents. The UAO required each respondent to inter alia, prepare and submit work plans and undertake remedial actions at the L&RR Site in accordance with the directives and schedules specified in the UAO and related documents. The UAO Respondents received the 1990 UAO.

48. The UAO Respondents each failed or refused to comply with the terms of the 1990 UAO without sufficient cause.

49. Pursuant to Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1), the UAO Respondents are each subject to civil penalties of not more than $25,000 for each day of their failure to comply or refusal to comply with the requirements of the 1990 UAO.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, the United States of America, respectfully requests that:

1. Defendants be ordered to reimburse the United States for all response costs incurred and to be incurred by the United States relating to the L&RR Site, plus interest;

2. Defendants be ordered to perform the remedy set forth in the ROD;

3. Defendants L&RR, Truk-Away, Charles Wilson, David Wilson, Avnet, Boston Edison, CCL, Clean Harbors, Corning, General Dynamics, Olin, Polaroid, Stanley Bostich, Dexter and United Dominion each be assessed civil penalties for each day of each violation of the UAO; and

4. The Court grant such other and further relief as the Court deems appropriate.

Respectfully submitted,

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L&RR Settlement Agreement and Consent Decree:

Appendix A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

RECORD OF DECISION

Landfill & Resource Recovery (L&RR) Site
North Smithfield, Rhode Island

STATEMENT OF PURPOSE

This Decision Document represents the selected remedial action for the Landfill & Resource Recovery (L&RR) Site developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Contingency Plan (NCP) 40 CFR Part 300 et seq., 47 Federal Register 31180 (July 16, 1982), as amended. The Region I Administrator has been delegated the authority to approve this Record of Decision.

The State of Rhode Island has concurred with the components of the selected remedy which are consistent with the 1983 Court Order and Consent Agreement between the Rhode Island Department of Environmental Management (RIDEM) and Landfill & Resource Recovery (L&RR), Inc. In regards to the additional requirements established by EPA, the State of Rhode Island recognizes that these requirements are not inconsistent with the 1983 Court Order and provide additional protection. The State of Rhode Island has also determined, through a detailed evaluation, that the selected remedy is consistent with Rhode Island laws and regulations.

STATEMENT OF BASIS

This decision is based on the administrative record which was developed in accordance with Section 113(k) of CERCLA and which is available for public review at the North Smithfield Municipal Annex Building and the EPA Region I Waste Management Division Records Center in Boston. The attached index identifies the items which comprise the administrative record upon which the selection of the remedial action is based.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy has four major components which together form a comprehensive approach to site remediation.

1. Upgrading the Landfill Closure

The existing landfill closure will be upgraded to protect the groundwater, to protect the wetlands and to meet ARARs. Upgrading the landfill closure includes installing a fence; developing a post-closure monitoring plan; upgrading the surface water runoff management system; stabilizing the steep side slopes and installing a synthetic cover on the uncovered northeast area of the landfill; establishing a cover thickness of 24 inches; and establishing vegetation. The synthetic cover will protect the groundwater by minimizing infiltration. Upgrading the existing surface water management system, stabilizing the steep side slopes and establishing vegetation will protect the wetlands by minimizing erosion. All of the components contribute to the remedy attaining ARARs.

Two alternatives have been selected for stabilizing the steep slopes. The specific alternative will be selected during the design phase of the remedial action after slope stability tests are conducted.

2. Gas Collection and Thermal Destruction

The landfill gas will be treated to reduce the potential risks to public health from inhalation of the landfill vent emissions. The existing landfill vents will be utilized to collect the landfill gas. These vents will be manifolded by a subsurface piping system which will direct the gaseous emissions to the treatment system.

Three thermal destruction technologies have been selected to treat the gaseous emissions: combustion, flaring and incineration. All of these technologies burn the landfill gas to destroy the hazardous constituents. Typically, these technologies can destroy between 90% and 99% of the contaminants in the gas that enters the system. The specific technology to be utilized for thermal destruction will be chosen by EPA during the design phase after pilot tests have been conducted to insure that the remedy is protective.

3. Wetlands Remediation

During the Remedial Investigation, two areas of the wetlands were identified as needing remediation due to cover material erosion and subsequent sedimentation. In these areas, the sand which has eroded from the landfill will be excavated and the wetlands will be revegetated. Since the eroded sand is not contaminated, the excavated sediment can be redeposited on-site. To promote

wetland revegetation, soils similar to those of the natural wetland will be placed, and sedges and others species will be planted. During revegetation, the natural contour of the wetland will be restored to maintain the easterly flow of the creek toward the main wetland body. Additional areas may be defined during the design phase if erosion has caused further damage since the RI was conducted.

4. Site Monitoring

To insure that the remedy remains protective, both the groundwater and the air will be monitored periodically for thirty years. The existing network of wells plus one new well cluster will be monitored on a quarterly basis for a number of constituents that were selected based on site specific information. The monitoring results will be reviewed on a periodic basis to determine if a variation indicative of a plume is present.

The air monitoring program will depend on the specific technology chosen for gas treatment. This plan will be outlined during the design phase and will specify the monitoring locations, the sampling technique, the indicator parameters and frequency of monitoring. Depending on the technology, this plan may include ambient air monitoring and emissions testing to insure that the system is protecting public health and the environment.

DECLARATION

The selected remedy is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate and is cost-effective. This remedy partially satisfies the statutory preference for treatment that permanently and significantly reduces the volume, toxicity and mobility of the hazardous substances, pollutants and contaminants, as a principal element. Finally, it is determined that this remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

9/29/88
Date

Michael R. Deland
Regional Administrator

LANDFILL & RESOURCE RECOVERY SITE
Record of Decision Summary

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LANDFILL & RESOURCE RECOVERY SITE
Record of Decision Summary

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APPENDICES

I. SITE NAME, LOCATION AND DESCRIPTION

The Landfill and Resource Recovery (L&RR) Site ("the Site") is a closed landfill in the Town of North Smithfield, Rhode Island that historically received domestic, commercial and industrial wastes. The landfill covers approximately 28 acres of a 36 acre parcel of land owned by Landfill and Resource Recovery (L&RR), Inc. The Site is located on Oxford Turnpike, northwest of Pound Hill Road (see Figure I-1: Site Location Map).

The landfilled area extends from the edge of Oxford Turnpike on the west, to within 50 feet of the property line on the north and east, and to within 100 feet of an intermittent unnamed stream on the south. The Site is located in a rural area primarily surrounded by woodlands. A sand and gravel pit exists south of the landfill, on property also owned by L&RR, Inc. Three unnamed streams exist south and east of the Site. These streams flow through wetlands, also located south and east of the Site, and discharge into Trout Brook. Trout Brook flows north for about 2000 feet to Trout Brook Pond which discharges into the Slatersville Reservoir. The Slatersville Reservoir and Trout Brook are Class B water bodies suitable for fishing, swimming and other recreational purposes.

There are several homes near the landfill that have private wells and use groundwater as a source of drinking water. These homes are located on Oxford Turnpike, Pound Hill Road and other nearby roads. The closest residence is approximately 1200 feet southeast of the landfill, on Pound Hill Road (see Figure I-2: Site Layout Plan). The landfill is located over the Slatersville Aquifer which has been designated as a drinking water source by the State of Rhode Island.

The Site is a former sand and gravel pit that reportedly began accepting wastes for disposal around 1927. The Site owners claim that the hazardous materials were co-disposed with the municipal wastes in the north-central area of the Site. Other reports received by EPA have stated that the hazardous waste were co-disposed with municipal wastes throughout the Site. Consequently, EPA does not know the full areal extent of historical hazardous waste disposal. When hazardous waste disposal ceased, the so called "hazardous waste area", as defined by the owners, was covered with a synthetic cover made of 20-mil poly vinyl chloride (PVC). This action was conducted by a company under contract to L&RR, Inc., and was intended to reduce infiltration of rain and melted snow into the waste. After this action, the landfill continued operation placing commercial and domestic waste on top of and around this area. When the landfill was closed by the owner, the landfill was graded and covered with approximately a foot of sand and another synthetic cover. This synthetic cover was placed over approximately 80% of the landfill. Additional soil was placed on this cover to establish vegetation. The side slopes are steep, ranging from slopes of 3:1 to slopes of 2:1.

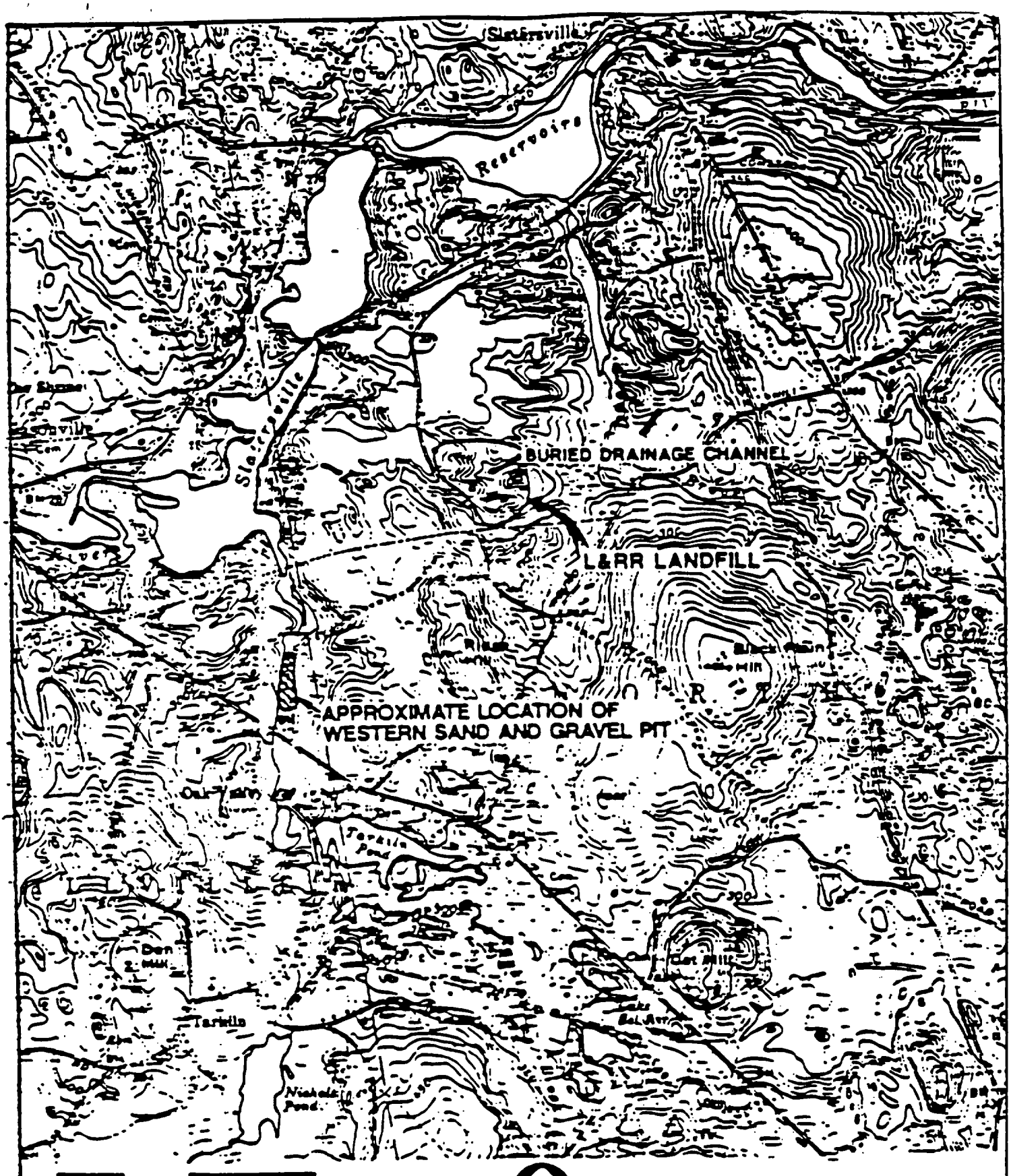
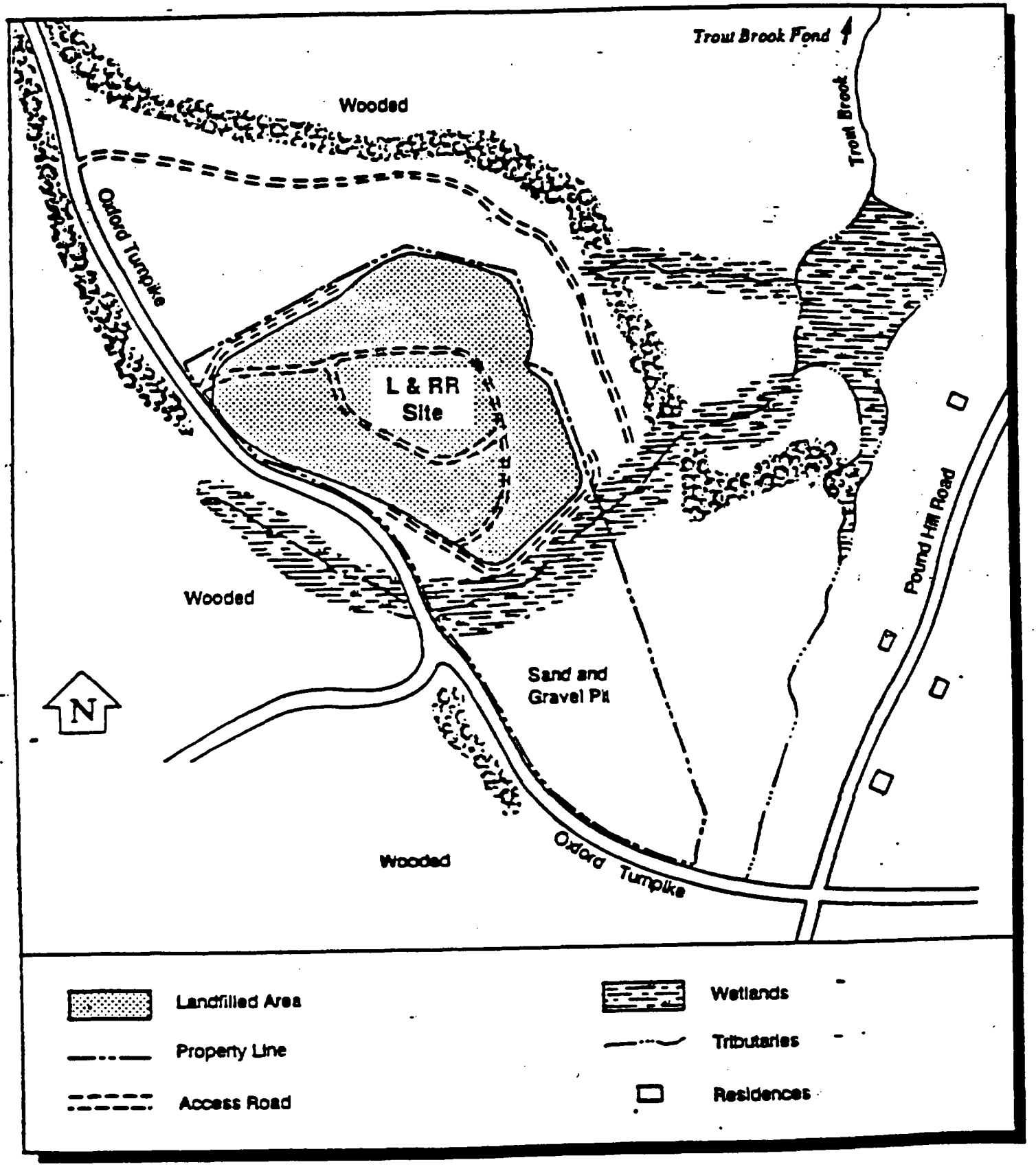


Figure I-1
SITE LOCATION MAP
L & RR SITE
NORTH SMITHFIELD, RHODE ISLAND

SOURCE: U.S.G.S. GEORGIAVILLE, R.I., 7.5 MINUTE TOPOGRAPHIC MAP

Figure I-2

Site Layout Plan



The landfill contains 18 landfill gas vents which were constructed to vent gases from below the synthetic cap and soil that cover most of the landfill. Gas is generated from decaying wastes disposed in the landfill. These vents are installed at varying depths throughout the top of the landfill and are currently closed to prevent gases from being released.

Surrounding the landfill is a fence which consists of strands of barbed wire attached to wooden posts. This fence is similar to those used to restrain cattle and horses.

A more complete description of the Site can be found in the Remedial Investigation/Feasibility Study (RI/FS) Report on pages 2-1 through 2-7.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

The Site was originally a sand and gravel pit that reportedly began accepting wastes for disposal around 1927. In 1969, the Site began operation as a solid waste disposal area under the management of Harvey Fortune. This operation was sold to L&RR, Inc., in 1974. A Solid Waste Management Facility licence was issued to L&RR, Inc., by the State of Rhode Island in December 1976. In November 1977, L&RR, Inc., submitted plans for installing 7 monitoring wells to the Rhode Island Department of Health (RIDOH). These wells were installed to comply with State regulations pertaining to hazardous waste disposal. This submittal was the first indication that hazardous waste disposal was occurring at the Site. In September 1979, Rhode Island Department of Environmental Management (RIDEM) ordered L&RR, Inc., to cease accepting hazardous waste. In December 1979, the hazardous waste area, as defined by L&RR, Inc., was covered with a synthetic cover. Additional landfilling of commercial and domestic waste over and around the covered area continued until 1985. Landfill closure began in 1985 pursuant to a 1983 Court Order and Consent Order and Agreement ("the 1983 Court Order") between RIDEM and L&RR, Inc. To date, most of the closure as required by the 1983 Court Order has been completed.

A. Remedial History

The L&RR Site has been the focus of several investigations by the Environmental Protection Agency (EPA), the Rhode Island Department of Environmental Management (RIDEM) and the owners since 1977. Between 1977 and 1980, several sets of monitoring wells were installed and sampled on an irregular basis. Between 1980 and 1981, the EPA conducted a Preliminary Site Assessment of the L&RR Site which resulted in the Site being ranked on the National Priorities List (NPL) in 1982. A Remedial Action Master Plan (RAMP) was completed for the Site in 1983. The RAMP evaluated existing data sources, identified data needs and recommended remedial action activities. In 1985, L&RR, Inc.,

began to close the landfill under a Court Order and Consent Order and Agreement with RIDEM. EPA was not a party to that Court Order and began a federally funded RI/FS in May 1986. A more detailed description of the Site history can be found in the RI/FS Report on pages 1-3 through 1-9.

B. Enforcement History

A number of enforcement actions have been taken against L&RR, Inc., by RIDEM. On September 6, 1979, RIDEM ordered L&RR, Inc., to cease accepting and disposing hazardous wastes. The landfill continued accepting commercial and domestic wastes. On December 1, 1980, the L&RR Solid Waste Management Facility license was up for renewal. L&RR, Inc., filed a renewal application and continued operation. On October 30, 1981, RIDEM ordered L&RR, Inc., to cease accepting all wastes and to close the northern section of the landfill where the hazardous waste was allegedly disposed. On November 9, 1981, L&RR ceased operating for a three week period and appealed the RIDEM order. On December 28, 1981, the RI Superior Court issued an order staying the enforcement and effect of the RIDEM order and allowing the landfill to continue operating. Based on new monitoring information, RIDEM issued another order to close the landfill. In January 1982, the RI Superior Court found RIDEM in contempt of the December 28 order and allowed L&RR to continue operations. On July 13, 1983, RIDEM and L&RR, Inc., entered into a Consent Order and Agreement which set forth terms and conditions governing the continued operation and eventual closure of the landfill. This Consent Order and Agreement was approved by the Superior Court for the State of Rhode Island and is referred to in the remainder of this document as "the 1983 Court Order." The landfill ceased operating in January 1985.

In June 1983, L&RR, Inc., requested that EPA accept the reports and plans developed under the 1983 Court Order as fulfilling the requirements of an RI/FS. EPA reviewed and commented on the 1983 Court Order and plans but did not accept them as fulfilling the requirements of an RI/FS consistent with the National Contingency Plan (NCP). Consequently, during 1983 and 1984, EPA conducted numerous negotiations with L&RR, Inc. As a result of these negotiations, EPA sent L&RR, Inc., a proposed consent order on November 24, 1984 for concurrence. This consent order would have allowed L&RR, Inc., to submit the data collected under the 1983 Court Order supplemented by additional investigations and studies required by EPA to fulfill the requirements of an RI/FS consistent with the NCP. L&RR, Inc., failed to respond and concur with EPA's proposed consent order. On January 29, 1985, EPA notified L&RR, Inc., that the Agency was withdrawing from the process of negotiating a formal agreement with L&RR, Inc., regarding the RI/FS.

On June 5, 1986, EPA notified L&RR, Inc., of their potential liability with respect to the Site. On July 29, 1988, EPA sent a notice letter to L&RR, Inc., which formally demanded reimbursement for past costs; requested information regarding activities at the Site; and, requested voluntary participation in undertaking forthcoming remedial activities.

On July 29, 1988, EPA also notified additional parties who either generated wastes that were shipped to the facility, arranged for the disposal of wastes at the facility, or transported wastes to the facility, of their potential liability with respect to the Site. EPA expects to carry out negotiations with the PRPs for conducting the remedial activities.

EPA's formal comment period on the Proposed Plan, which describes EPA's preferred remedy as well as the other alternatives considered for the Site in the FS, was from July 20 through September 2, 1988. An extended comment period, six weeks rather than the required three weeks, was held to allow additional time for the Potentially Responsible Parties (PRPs) to participate in the remedy selection process. Comments presented by the PRPs during the public comment period are included in the Administrative Record. A summary of these comments as well as EPA's response, which describes how these comments affected the remedy selection, are included in the Responsiveness Summary in this document.

III. COMMUNITY RELATIONS

Throughout the Site's history, community concern and involvement has been moderate to high. The community was particularly active in the late 70's and early 80's and repeatedly sought to close the landfill. Other concerns expressed by the community include contamination of the Slatersville Aquifer; development, growth and property values in the community; and, potential health effects caused by exposure to the Site. EPA has kept the community and other interested parties apprised of the Site activities through informational meetings, fact sheets, press releases and public meetings.

In 1983, EPA released a community relations plan which outlined a program to address community concerns and keep citizens informed about and involved in remedial activities. This plan was revised in October 1986 and on January 7, 1987, EPA held an informational meeting in the Municipal Anex Building in North Smithfield, RI to describe the plans for the RI/FS.

On July 19, 1988, EPA held an informational meeting to discuss the results of the RI, the alternatives presented in the FS and EPA's preferred alternative. This information was summarized and published in EPA's Proposed Plan, July 1988. The Proposed Plan was distributed to people on EPA's mailing list and other interested people at the meeting. Also during this meeting, the

Agency responded to questions from the public. From July 20 to September 2, 1988, the Agency held a six week public comment period to accept public comment on the alternatives presented in the FS and the Proposed Plan and on any other documents previously released to the public. On August 10, 1988, the Agency held a formal public hearing to accept any oral comments. A summary of the comments submitted and the Agency's response to comments are included in the Responsiveness Summary of this document.

IV. SCOPE OF RESPONSE ACTION

The selected remedy has four major components which together comprise a comprehensive approach for Site remediation. In summary, the remedy consists of the following components: upgrading the existing landfill closure; constructing a gas collection and thermal destruction system to treat the landfill gas; remediating the impacted wetlands; and monitoring the Site. The selected remedy will reduce the principal threats posed by the Site. Gaseous emissions from the landfill pose the principal threat to human health at the Site. The gas collection and thermal destruction system will reduce this threat. The sand eroding from the landfill poses a principal threat to the environment. Specifically, the sand is filling in wetlands that surround the Site. Upgrading the landfill closure will reduce this threat as well as the potential threat to groundwater from infiltration of rain and melted snow. The impacted wetlands will be remediated. Site monitoring will insure that the selected remedy remains protective of human health and the environment.

V. SITE CHARACTERISTICS

The RI consisted of evaluating existing data and gathering additional data needed to characterize the Site. Additional data was gathered for the following media: air, groundwater, subsurface soils, surface water, and surface water sediments. The significant findings of the Remedial Investigation are summarized below. A complete discussion of the Site characteristics can be found in Sections 7 and 8 of the RI/FS Report.

A. Air

During the RI, the 18 landfill vents were opened and the emissions were evaluated to determine the landfill's impact on air quality. The vents were sampled and found to be releasing methane and hydrogen sulfide gas contaminated with a variety of volatile organic compounds (VOCs). Five of the 18 vents contained significantly higher concentrations of VOCs. The locations of these vents (12, 13, 15, 17 and 18) were coincident with the proximate area where hazardous waste was disposed (see Figure V-1: Location of Landfill Vents).

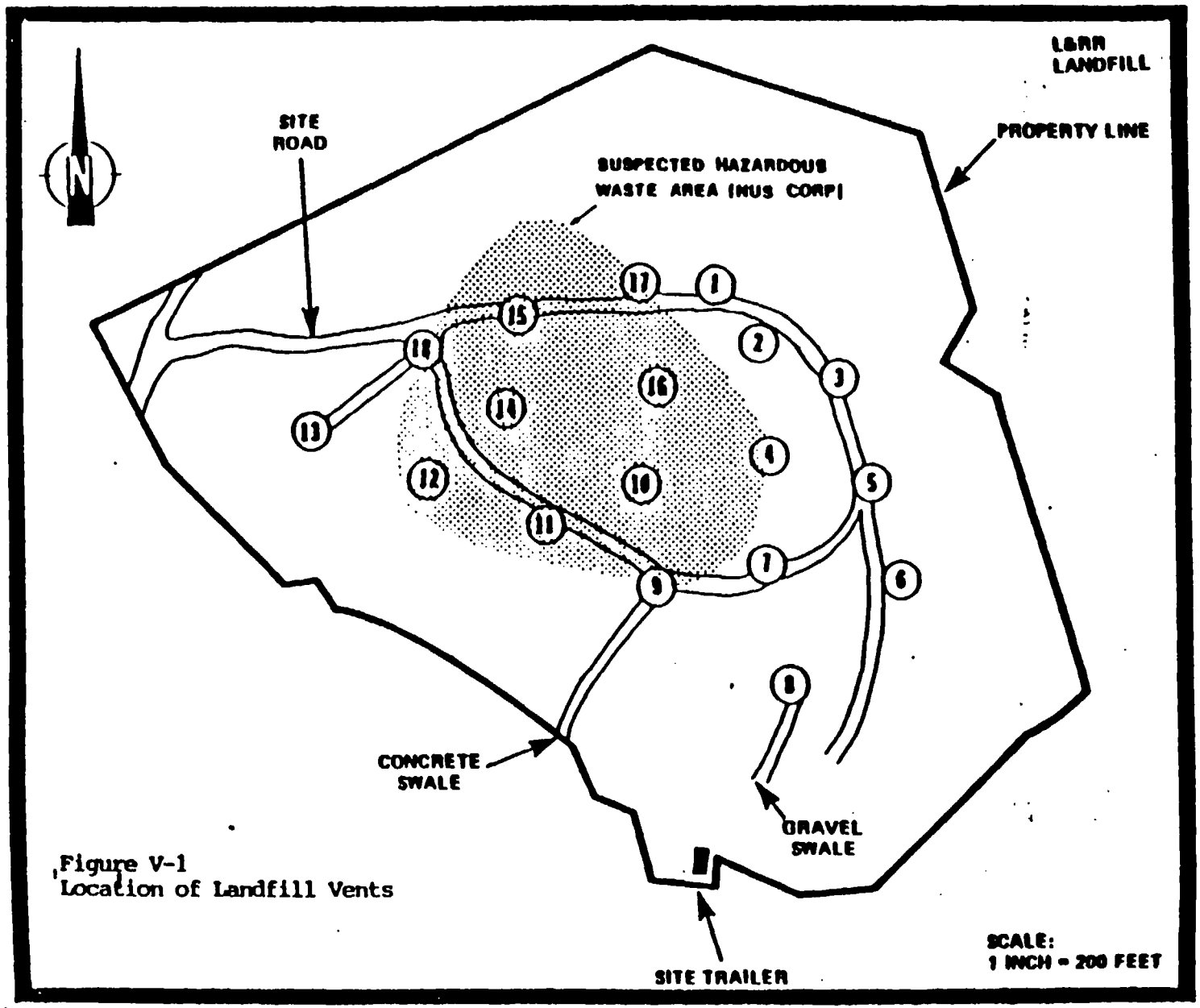


Figure V-1
Location of Landfill Vents

Samples of the air were also taken at locations above the portion of the landfill that is not covered by the synthetic cap. These results indicated that methane and hydrogen sulfide gas contaminated with VOCs are also released from the uncovered area.

B. Groundwater and Subsurface Soils

EPA collected and analyzed groundwater samples from 14 on-site groundwater monitoring wells (see Figure V-2: Monitoring Well Locations) and evaluated historical information available from earlier groundwater studies. Low levels of VOCs and metals (lead, cadmium, and arsenic) were present down gradient from the Site. The detection of these compounds was sporadic and unevenly distributed and the concentrations were all below EPA's drinking water maximum contaminant levels (MCLs). The presence of a plume of hazardous contaminants moving away from the Site is not evident from present and historical data. Since historical information indicates that hazardous wastes have been disposed in the landfill, there are three possible explanations for the analytical results seen to date. The first possible explanation is that there are migrating hazardous constituents which have not yet entered the groundwater. The second possible explanation is that there is contaminated groundwater which has not yet been transported beyond the boundary of the landfill, where the monitoring wells are located. The third possible explanation is that the existing landfill conditions, such as the natural hydrologic and geologic conditions within the landfill, the quantity of hazardous wastes disposed and the existing cover, could be preventing the migration or detection of a groundwater contaminant plume.

Iron, manganese, chloride and specific conductance were detected in the groundwater at slightly elevated levels, above ambient conditions, down gradient from the Site. These compounds are typically found in the groundwater migrating from municipal landfills and do not have a high toxicity.

The investigation indicated that groundwater in the vicinity of L&RR flows to the east and southeast and discharges into tributaries of Trout Brook and wetlands adjacent to the Site. The average rate of groundwater flow was estimated to range from 5 to 10 ft/year in the upper kame delta deposits and from 230 to 460 ft/yr in the lower ice contact deposits.

EPA also reviewed residential well data generated by the Rhode Island Department of Health. Low levels of VOCs were present in some of the residential wells with no consistent trends. In some instances, the types of VOCs detected were different than those detected in the on-site monitoring wells.

Subsurface soil samples were obtained during the drilling of the groundwater monitoring wells. The results of the analyses did not indicate the presence of significant levels of contaminants.

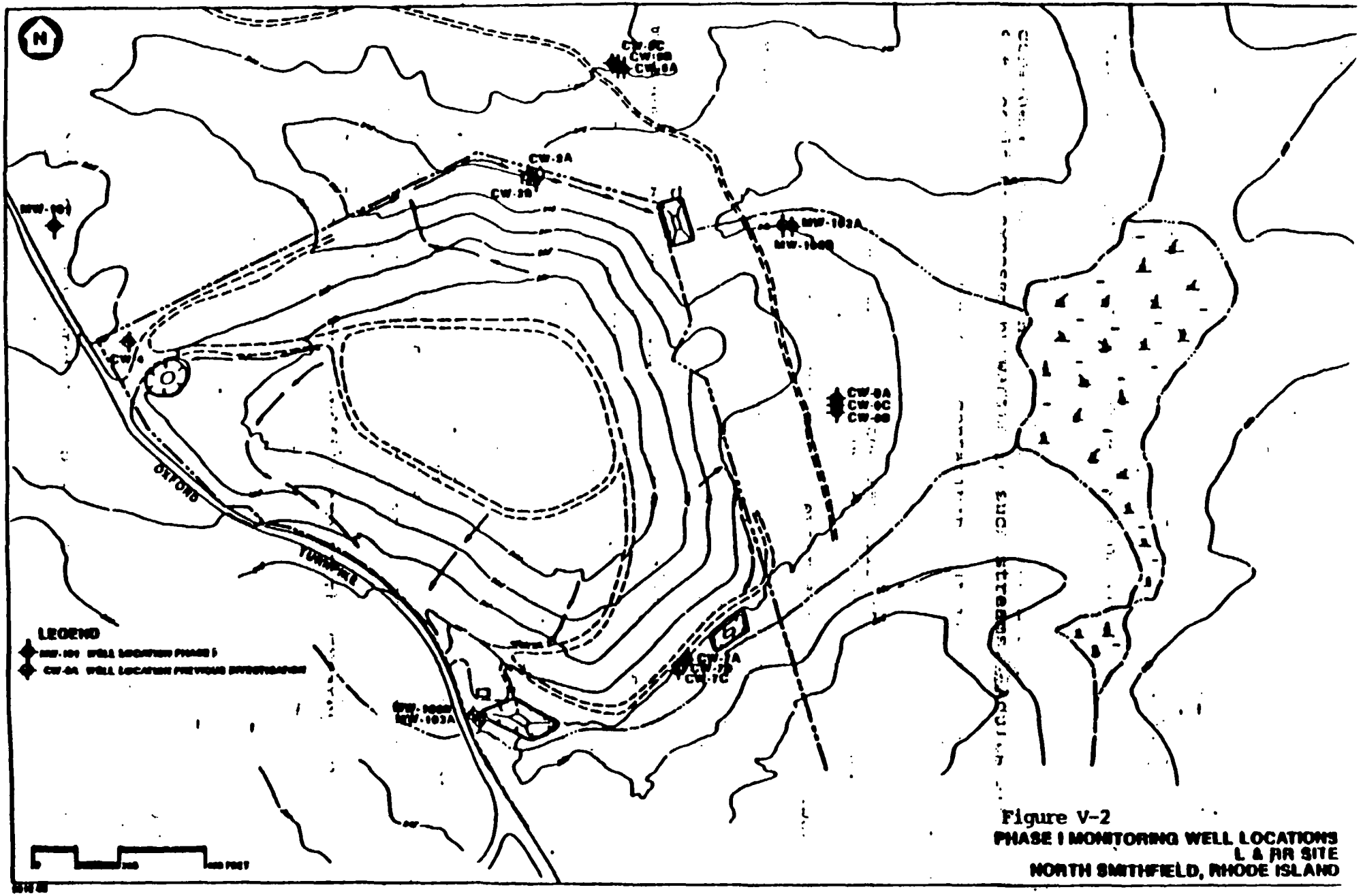


Figure V-2
PHASE I MONITORING WELL LOCATIONS
L & RR SITE
NORTH SMITHFIELD, RHODE ISLAND

In summary, based on all the data generated, EPA concluded that a plume of hazardous contaminants is not yet migrating from the Site. All contaminants are below MCLs. The elevated levels of iron, manganese, chloride and specific conductance are typical of an inorganic plume migrating from a municipal landfill. Finally, the L&RR Site is not presently impacting the local private wells. Contaminants found at those wells are presently attributed to sources other than the L&RR landfill.

C. Surface Water and Sediments

To characterize impacts to local area streams, samples of the surface water and sediments were taken (see Figure V-3: Surface Water and Sediment Locations). As in the case of the groundwater, the surface water and sediments also contain very low levels of VOCs. Slightly elevated levels of inorganic compounds were also detected.

VI. SUMMARY OF SITE RISKS

Using the data collected during the RI, a risk assessment was conducted to evaluate the present and future risks posed to public health and the environment from lifetime exposure to contaminants at the L&RR Site. The risk assessment is performed assuming that further remedial actions will not be conducted and is intended to indicate which routes of exposure present a risk that warrants remedial actions. The risk assessment was conducted in two parts: a public health assessment and an environmental assessment.

A. Public Health Assessment

A Public Health Assessment (PHA) was performed to estimate the probability and magnitude of potential adverse human health effects from exposure to contaminants associated with the Site. Seventeen contaminants of concern, listed in Table VI-1, were selected for evaluation in the PHA. These contaminants constitute a representative subset of the more than 30 contaminants identified at the Site during the RI. The 17 contaminants were selected to represent potential on-site hazards based on toxicity, concentration, mobility and persistence in the environment, and frequency of detection.

Potential human health effects associated with the contaminants of concern in groundwater, surface water, sediments and air were estimated through the development of several hypothetical exposure scenarios. Table VI-2 summarizes the potential receptors and the significant routes of exposure for all media at the Site.

Ingestion of groundwater is considered to be a potential future route of exposure rather than a present route for three reasons. First, on-site groundwater is not presently used as a drinking

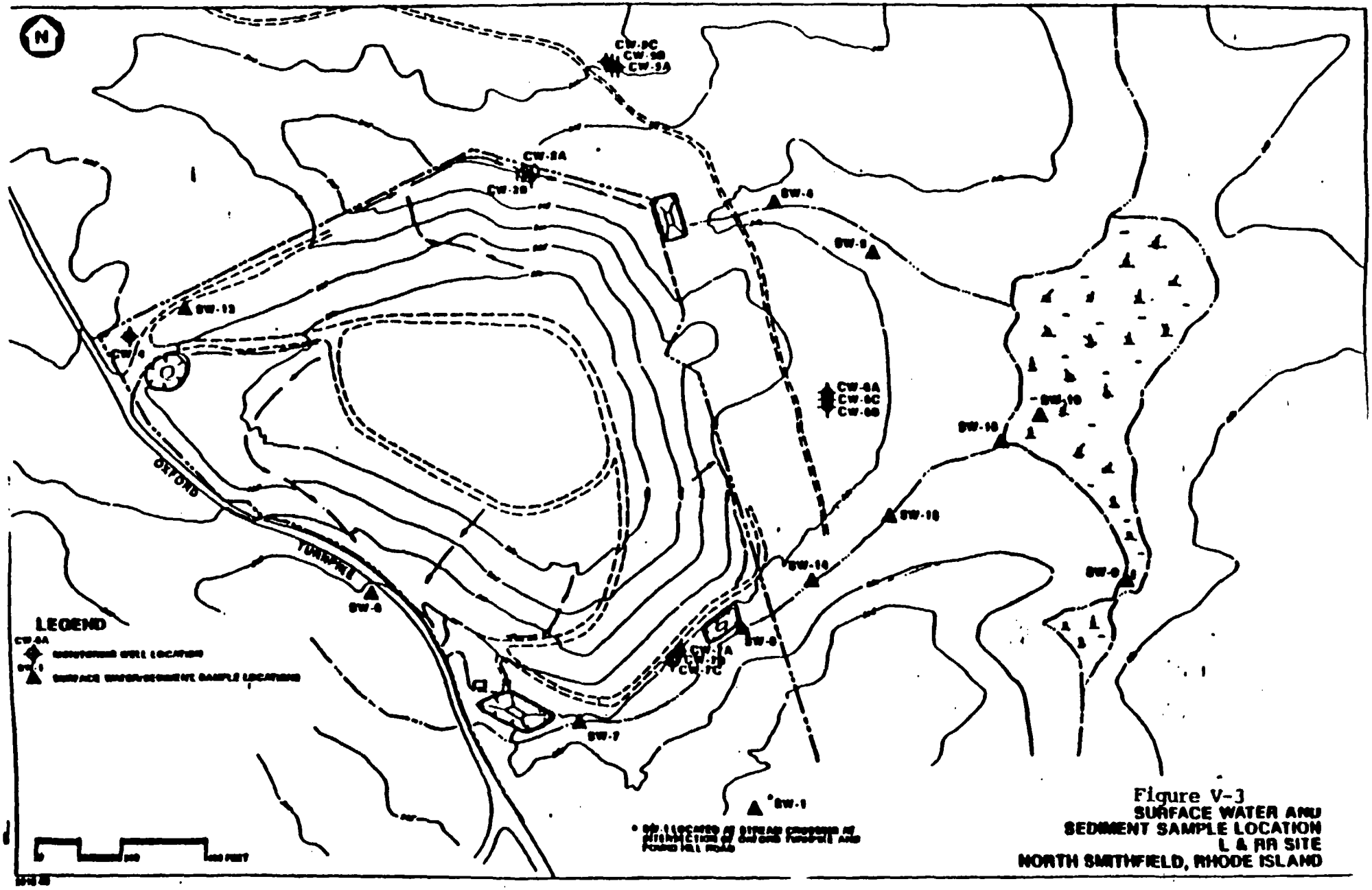


Figure V-3
SURFACE WATER AND
SEDIMENT SAMPLE LOCATION
L & RR SITE
NORTH SMITHFIELD, RHODE ISLAND

Table VI-1
Contaminants of Concern

COMPOUND	MEDIA			
	Groundwater	Surface Water	Sediment	Air
o VOCs				
2-butanone	X	X	X	
toluene		X		X
trans-1,2-dichloroethene		X		
1,1-dichloroethane		X		
chloroform				X
1,2-dichloroethane				X
carbon tetrachloride				X
benzene				X
1,1,-dichloroethene				X
methylene chloride				X
tetrachloroethene				X
1,1,2,2-tetrachloroethane				X
trichloroethene				X
ethyl benzene				X
o SVOCs				
none selected				
o Pesticides				
none selected				
o Inorganics				
arsenic	X	X		
lead	X	X		
zinc		X		

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Table VI-2
Summary of Exposure Routes

Medium	Point of Exposure	Route of Exposure	Exposed Population	Status
Ground-water	Downgradient wells	Ingestion	Adults & children	Future
Surface water	Eastern Edge Southern Edge Western Edge	Dermal absorption	Children	Current
Sediments	Eastern Edge Southern Edge	Dermal absorption	Children	Current
Air Emissions	Vents on landfill and dispersion downwind	Inhalation	Adults & children	Current

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water source. Second, based on the information gathered to date, a contaminant plume is presently not migrating from the Site and impacting off-site private wells. Finally, the landfill is located over the Slatersville Aquifer which is classified as a potential future drinking water source, so that there is a threat of future releases from the Site into drinking water.

The streams near the Site are rather shallow and swimming is not considered probable. However, children who might play near the Site could be exposed by wading in such streams. Adults are not expected to use the Site for this purpose and are therefore not considered to be exposed to contaminants in the surface water and sediments.

Gaseous emissions from the landfill vents as well as fugitive emissions from the surface of the landfill are considered to be potential routes of exposure. Presently, the landfill vents are closed and the majority of the gaseous emissions are retained at the Site. However, these vents will eventually have to be opened to protect the integrity of the landfill's synthetic cover from pressure building up within the landfill.. Therefore, inhalation of the vent emissions is a potential future route of exposure.

EPA's exposure scenarios are designed to identify the level of clean-up that would be acceptable without the need for long term management, such as a fence, to prevent on-site exposure. In assessing the risks associated with the landfill emissions, separate exposure scenarios were utilized for children and adults because children could be expected to play at the Site and be exposed to the undiluted emissions from the vents.

The conclusions of the public health assessment are as follows:

- Of all the potential risks evaluated at the Site, exposure to gaseous emissions from the landfill pose the highest health risk. If the vents were opened and neighboring residents were exposed throughout their lifetime to the gaseous emissions from the vents, a potential risk to public health could result from exposure to these gases. Furthermore, children who might play on the landfill are at the greatest risk.

- Exposure to groundwater at the boundary of the Site does not presently pose a significant risk to public health. It is important to note that it was determined from the data collected that the L&RR Site is not presently the source of contamination in the residential wells near the Site. EPA has requested that the State of Rhode Island investigate other potential sources of contamination for these wells.

- Exposure to surface water and sediments adjacent to the Site does not presently pose a significant risk to public health.

A complete discussion of the Public Health Assessment can be found in Section 11 of the RI/FS Report.

B. Environmental Assessment

This part of the risk assessment evaluated risks posed to the wetlands and various wildlife including aquatic organisms at the Site from exposure to pollutants and contaminants. The assessment concluded that the only significant environmental threat is to the wetlands surrounding the Site (see Figure VI-1: Wetland Community Section). The wetlands are being impacted by soil eroding from the landfill cover. The eroded soil is not contaminated; however, it is filling in the wetlands, destroying vegetation and decreasing the ability of the wetland area to support indigenous plant and animal life.

A complete discussion of the Environmental Assessment can be found in Section 10 of the RI/FS Report.

VII. LANDFILL CLOSURE ASSESSMENT

In 1983, L&RR, Inc., entered into a Court Order and Consent Order and Agreement ("the 1983 Court Order") with RIDEM, to close the landfill according to plans incorporated into the Order. EPA commented on these plans but was not a party to this Court Order. The 1983 Court Order, the plans and the data supporting them failed to meet the requirements of the National Contingency Plan (NCP). Negotiations for the conduct of an RI/FS in conformance with the NCP were conducted between EPA and L&RR, Inc., but an agreement was not reached. The owner closed the landfill according to the plans in the 1983 Court Order when landfilling stopped in January of 1985.

During 1985 and 1986, GCA Corporation, under contract to EPA, observed the Site closure operations and evaluated its compliance with the Resource Conservation and Recovery Act (RCRA), Subtitle C, regulations. Section 40 CFR Part 264 of the RCRA regulations contains requirements governing design, construction, operation, maintenance, disposal, closure and post-closure of a hazardous waste facility. Some of these regulations are considered relevant and appropriate requirements for the Site since the L&RR Site contains wastes that are listed in RCRA as hazardous wastes and these wastes were accepted for disposal prior to 1980 (See Tables XII-1,2 and 3). The information obtained by GCA was intended to supplement information obtained during EPA's RI/FS. GCA's observations and findings were documented in the Compliance Oversight Report by GCA, dated June 1986. EPA began the RI/FS in May of 1986. During the RI, EPA evaluated the performance of the landfill closure as it had been conducted to date. The significant finding are summarized below.

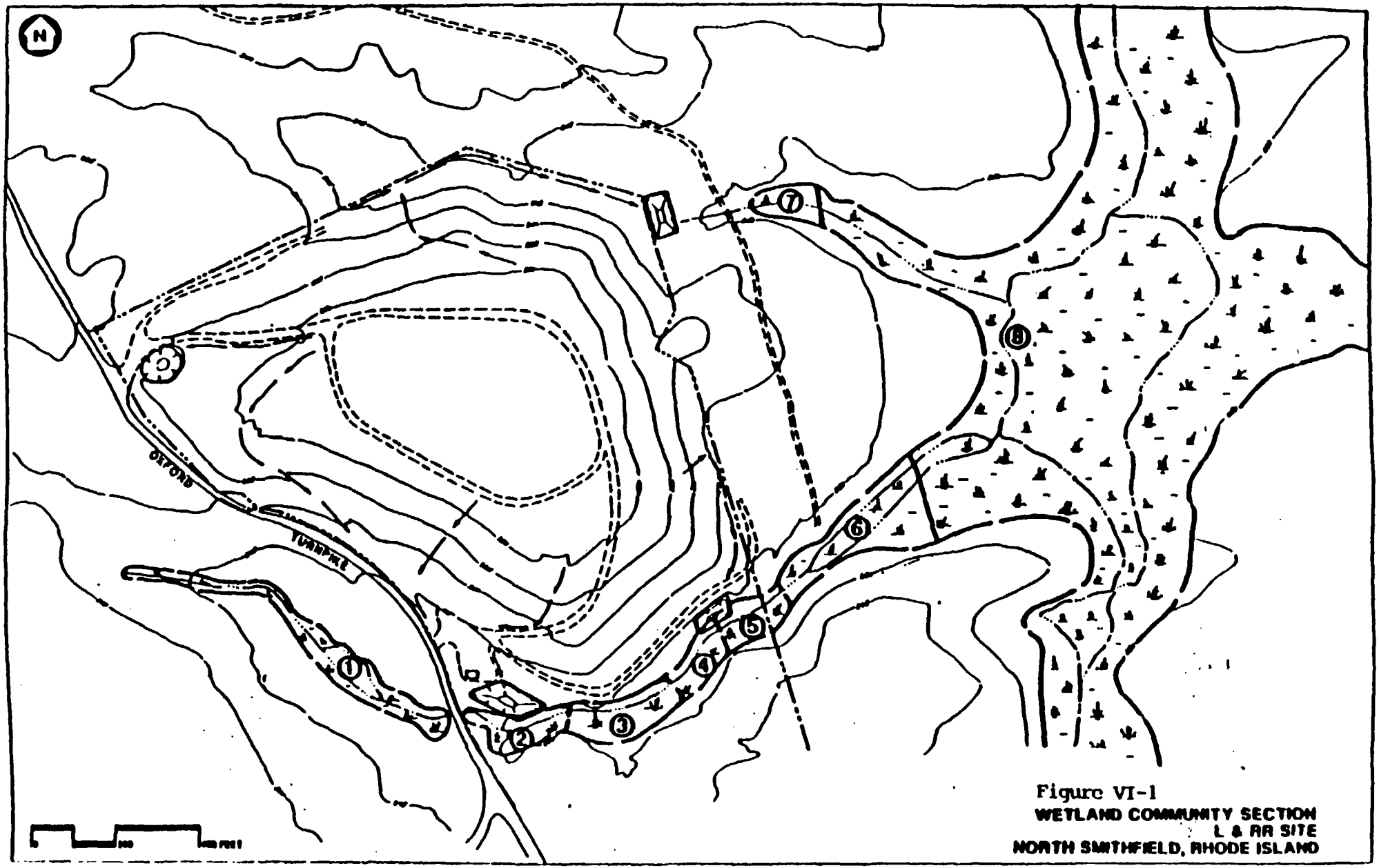


Figure VI-1
WETLAND COMMUNITY SECTION
L & RR SITE
NORTH SMITHFIELD, RHODE ISLAND

A. Evaluation of the Cover's Performance

During the RI, data was gathered from the existing landfill to assess the performance of the existing cover. The landfill was assessed according to the following factors: cover drainage, vegetation, erosion of cover soil, and the stability of the side slopes.

Using the Hydrogeologic Evaluation of Landfill Performance (HELP) model, Version I, the assessment concluded that approximately 749,000 gal/acre/yr of infiltration enters the waste in the 4.9 acre area without the synthetic cover and subsequently leaches from the base of the landfill. This infiltration comprises 59% of the average annual rainfall. The maximum infiltration in the rest of the landfill, which has a synthetic cover as part of the cover system, was estimated to be 7,690 gal/acre/yr or 0.6% of the average annual rainfall. In response to the comments received during EPA's public comment period, the infiltration in the uncovered area was recalculated using the Thornthwaite and Mather method as republished by Fenn, Hanley and DeGeare, in 1977. Using this method, the infiltration in the uncovered area was calculated to be approximately 435,000 gal/acre/yr which is 34% of the average annual rainfall.

The existing landfill surface water drainage system is not designed or constructed to handle peak velocity flows from heavy precipitation and the landfill lacks vegetation, particularly in the area without a synthetic cover. Both of these factors result in the potential for excessive erosion. Current erosion from the landfill ranges from 0.5 to 38.3 tons/acre of cover soil per year. Ultimately, the eroded soil is deposited in wetland areas surrounding the Site. The steep side slopes are marginally stable. Accepted engineering practice is to design the slopes so that a factor of safety against cover sliding is at least 1.25. For the steep slopes at the Site, the factor of safety ranged from 1.02 - 1.15.

During the RI, EPA also assessed the performance of a hypothetical cover. The specifications for this hypothetical cover were generated using the EPA guidance document entitled Covers for Uncontrolled Hazardous Waste Sites (EPA/540/2-85/002; September 1985). A cover constructed according to this guidance results in 2% of the average annual rainfall leaching from the base of the landfill. Also, an estimated 2 tons/acre of soil per year would erode from the cover. The guidance document also provides information on constructing the surface water drainage system to handle peak flows and to minimize erosion. To assess whether the existing cover met the requirements of the RCRA, Subtitle C, regulations, the performance of the two covers was compared. The conclusions of this assessment are presented below.

B. Compliance with Federal and State RCRA Requirements.

Some of the RCRA, Subtitle C, regulations are considered relevant and appropriate requirements for the L&RR Site. During the assessment, it was determined that the existing landfill closure does not meet the RCRA regulations as outlined in 40 CFR Subpart N, § 264.310. Specifically, it does not minimize erosion; it does not minimize infiltration of liquids such as rain and melted snow and it does not function with minimum maintenance. Furthermore, the present Site security system does not meet the objectives of 40 CFR Subpart B, § 264.14; the present groundwater monitoring plan does not meet the objectives of 40 CFR Supart F, § 264.90 - § 264.101; and, the post closure plan does not meet the objectives of 40 CFR Subpart G, § 264.110 - § 264.120. The specific deficiencies pertaining to security, the groundwater monitoring plan, and the post closure plan are discussed in detail in the GCA Report and the RI/FS Report, which are included in the Administrative Record.

In addition to the above, the landfill cover does not meet Rhode Island's Rules for Solid Waste Management Facilities (R.I.G.L. 23-18.9). These rules require a total of 24 inches of cover soil to be maintained on the surface of the landfill. Presently, the 2:1 side slopes are only covered with approximately 1 foot of soil. Furthermore, the erosion of the cap into the wetlands violates the State's Wetlands law, (R.I.G.L. 2-1).

A complete discussion of the landfill closure assessment can be found in the GCA Report and Section 9.0 of the RI/FS Report.

VIII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

A. Statutory Requirements/Response Objectives

Prior to the passage of the Superfund Amendments and Reauthorization Act of 1986 (SARA), actions taken in response to releases of hazardous substances were conducted in accordance with CERCLA as enacted in 1980 and the revised National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, dated November 20, 1985. Until the NCP is revised to reflect SARA, the procedures and standards for responding to releases of hazardous substances, pollutants and contaminants shall be in accordance with Section 121 of CERCLA and to the maximum extent practicable, the current NCP.

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences, including: a requirement that EPA's remedial action, when complete, must comply with applicable or

relevant and appropriate environmental standards established under federal and state environmental laws unless a statutory waiver is granted; a requirement that EPA select a remedial action that is cost-effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and a statutory preference for remedies that permanently and significantly reduce the volume, toxicity or mobility of hazardous substances, pollutants and contaminants over remedies that do not achieve such results through treatment. Response alternatives were developed to be consistent with these Congressional mandates.

Remedial response objectives define the specific aspects of a site that must be considered during remediation. For the L&RR Site, response objectives were formulated for the landfill closure, wetlands and landfill gas based on environmental problems defined in the public health, environmental and landfill closure assessment. These response objectives are used to develop appropriate remedial alternatives and are as follows:

- remediate the landfill so that federal and state applicable, relevant and appropriate requirements are met and to insure that the landfill is protective of human health and the environment;
- reduce present and future impacts to wetlands due to sedimentation of eroded landfill cover material;
- remediate the wetlands already impacted by sedimentation; and
- remediate the landfill gas so that VOC concentrations in ambient air are reduced and risks to public health and the environment are minimized.

B. Technology and Alternative Development and Initial Screening

CERCLA, the NCP, and EPA guidance documents including, "Guidance on Feasibility Studies Under CERCLA" dated June 1985, and the "Interim Guidance on Superfund Selection of Remedy" [EPA Office of Solid Waste and Emergency Response (OSWER)], Directive No. 9355.0-19 (December 24, 1986) set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements and guidance documents, a range of alternatives were developed for the Site. In accordance with Section 121 of CERCLA, this range must include the following categories: a no action alternative, alternatives that utilize containment technologies and treatment alternatives ranging from an alternative that would eliminate the need for long-term management (including monitoring) at the Site to alternatives

that utilize treatment to reduce the mobility, toxicity, or volume of the hazardous substances as their principal element.

Section 121(b)(1) of CERCLA presents several factors that at a minimum EPA is required to consider in its assessment of alternatives. In addition to these factors and the other statutory directives of Section 121, the evaluation and selection process was guided by the EPA document "Additional Interim Guidance for FY '87 Records of Decision" dated July 24, 1987. This document provides direction on the consideration of SARA cleanup standards and sets forth nine factors that EPA should consider in its evaluation and selection of remedial actions. The nine factors are:

1. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs).

2. Long-term Effectiveness and Permanence.

3. Reduction of Toxicity, Mobility or Volume.

4. Short-term Effectiveness.

5. Implementability.

6. Community Acceptance.

7. State Acceptance.

8. Cost.

9. Overall Protection of Human Health and the Environment.

Section 15 of the RI/FS Report identified, assessed and screened technologies based on Site and waste characteristics such as geology and hydrology; availability of space and resources; the presence of special Site features; the contaminated media; and, the type and concentrations of wastes. These technologies were combined into remedial alternatives that would provide a comprehensive remedial approach to the Site. At the conclusion of this process, 6 remedial alternatives were developed for the Site: a no action alternative (Alternative 1), four containment alternatives (Alternatives 2-5) and a treatment alternative (Alternative 6). These alternatives are presented in Table VIII-1.

Alternatives 3, 4 and 5 contain a landfill gas treatment component. Three thermal destruction technologies were identified for treating the landfill gas: combustion, flaring and incineration. During the FS, it was determined that any one of these technologies could be included with any one of the alternatives.

Table VIII-1
Alternatives Developed for
LANDFILL AND RESOURCE RECOVERY

Alternative	Description of Key Components
Alternative 1: No-action	- Groundwater monitoring for indicators of contaminant migration.
Alternative 2: Vegetation Establishment	- Groundwater monitoring for indicators of contaminant migration. - Post-closure plan development to monitor, maintain, and inspect site. - Surface water management to minimize erosion of final cover and minimize maintenance requirements. - Vegetation establishment to minimize erosion of final cover. - Vegetation establishment on 2:1 side slope to minimize erosion and enhance evapotranspiration. - Cover thickness establishment (a minimum of 24 inches to meet ARARs). - Minimal gas control to enhance vegetation and, therefore, minimize erosion and maintenance. - Sediment removal in wetland and on-site disposal. - Fence installation to limit site access.
Alternative 3: Synthetic Cover Installation/Slope Stabilization	- Groundwater monitoring for indicators of contaminant migration. - Post-closure plan development to monitor, maintain, and inspect site. - Surface water management to minimize erosion of final cover and minimize maintenance requirements. - Vegetation establishment to minimize erosion of final cover. - Cover thickness establishment (a minimum of 24 inches to meet ARARs). - Slope stabilization by flattening 2:1 side slope to 2.5:1 and constructing terrace along new slope. - Synthetic cover installation on terraced 2.5:1 side slope to minimize maintenance and the migration of fluids through the landfill. - Landfill gas treatment. - Sediment removal in wetlands and on-site disposal. - Fence installation to limit site access.

Table VIII-1
Alternatives Developed for
LANDFILL AND RESOURCE RECOVERY
Continued

Alternative	Description of Key Components
Alternative 4: Slope Flattening/ Synthetic Cover Installation	- Groundwater monitoring for indicators of contaminant migration. - Post-closure plan development to monitor, maintain, and inspect site. - Surface water management to minimize erosion of final cover and minimize maintenance requirements. - Vegetation establishment to minimize erosion of the final cover. - Cover thickness establishment (a minimum of 24-inches to meet ARARs). - Flatten 2:1 side slope to 3:1 in unlined area to minimize erosion and maintenance. - Synthetic cover installation on 2:1 side slope. - Landfill gas treatment. - Sediment removal in wetlands and on-site disposal. - Fence installation to limit site access.
Alternative 5: RCRA Guidance Cover Installation	- Groundwater monitoring for indicators of contaminant migration. - Post-closure plan development to monitor, maintain, and inspect site. - Surface water management to minimize erosion of final cover and minimize maintenance requirements. - Construction of a RCRA guidance cover over the existing cover: o flatten 2:1 side slope to 3:1 o synthetic cover installation for 2:1 side slope area o clay cover installation over entire site o vegetation establishment including a drainage layer - Landfill gas treatment. - Sediment removal in wetlands and on-site disposal. - Fence installation to limit site access.
Alternative 6: Excavation and Treatment	- Excavation of landfill wastes to prevent contaminant migration. - Incineration of removed wastes prior to placement in RCRA-compliant facility. - Sediment removal and on-site disposal.

In Section 16 of the RI/FS Report, the alternatives were screened according to effectiveness, implementation and cost. The purpose of this screening was to narrow the number of potential remedial alternatives for further detailed analysis while preserving a range of alternatives for the Site. As a result of this screening process, Alternative 6, which utilized treatment (excavation and incineration) as a primary component and eliminated the need for long-term Site monitoring, was eliminated as a potential remedy because public health and environmental risks would be posed by its implementation. A detailed discussion of the reasons for elimination are presented in Appendix AA of the RI/FS Report, and in Section XII.D. of this document.

IX. DESCRIPTION/SUMMARY OF THE DETAILED AND COMPARATIVE ANALYSIS OF ALTERNATIVES

After the screening process, a detailed analysis was conducted on the five remaining alternatives. A detailed analysis was also conducted on each of the gas treatment technologies. Based on the conclusions of the analysis, the selected remedy would include one of the alternatives and one of the gas treatment technologies. This section presents a narrative summary and brief evaluation of each alternative and each technology according to the evaluation criteria described above.

A. Alternatives Analyzed

The five alternatives that were analyzed in detail for the Site include a no action alternative (Alternative 1) and four containment alternatives (Alternatives 2-5).

Alternative 1 — **Approximate Present Worth Cost: $ 850,000.**
No Action

The no action alternative would not require further remediation to the landfill closure conducted to date according to the 1983 Court Order between L&RR, Inc., and RIDEM but would consist solely of long-term groundwater monitoring. Each existing well would be sampled on a quarterly basis and analyzed for specific parameters identified in Table 18-1 of the RI/FS Report. Because this alternative results in wastes remaining on-site, the Site would be reviewed on a periodic basis.

This alternative would not be protective to public health and the environment because it does not reduce the existing risks associated with exposure to landfill gas emissions; it does not reduce impacts to the surrounding wetlands; it would not reduce the potential for off-site releases into groundwater resulting from infiltration; and, it would not comply with ARARs, specifically the RCRA regulations outlined in Section VII of this document.

A detailed assessment of this alternative can be found in Section 18 of the RI/FS Report.

Alternative 2
Vegetation Establishment

Approximate Present Worth Cost: $3,970,000.

This alternative consists of the following components:

- removing sediments and reseeding the wetlands;
- installing a chain linked fence;
- developing a post closure plan;
- upgrading the present surface water runoff management system;
- establishing a cover thickness of 24 inches;
- establishing vegetation; and,
- installing a passive gas collection system.

This alternative includes components that would upgrade the landfill closure conducted to date according to the 1983 Court Order. Establishing vegetation and upgrading the surface water runoff management system would minimize erosion and maintenance. The wetlands surrounding the Site would be restored and future impacts would be mitigated.

As discussed in Section VII of this document, EPA's RCRA regulations, 40 CFR 264 are relevant and appropriate for this Site. The RCRA landfill closure requirements in 40 CFR § 264.310 would not be satisfied by this remedy, because it would not provide long-term minimization of migration of liquids through the landfill (§ 264.310(a)(1)), in the area that is not capped by a synthetic cover. The excess infiltration increases the potential for groundwater contamination. Although an organic plume has not yet been detected, it is expected that one may emerge in the future. Therefore, the long-term protectiveness of this alternative is questionable. This alternative is readily implementable, taking approximately 2-3 months to design and construct, and would require long-term monitoring and maintenance.

This alternative does not contain gas treatment because it is difficult to implement a treatment system with this alternative. The landfill gas would be diluted with uncontrolled amounts of air that would be drawn in from the area which does not have a synthetic cover. The air would lessen the combustibility of the landfill gas. Therefore, this alternative includes a passive gas collection system. This system would direct the landfill gas away from the uncovered area of the landfill to minimize the destruction of vegetation in this area. The existing landfill vents would be opened to prevent the build up of gases under the liner. Since this system does not involve treatment, the toxicity of the gas would not be reduced and the potential risks to public health would remain. Therefore, EPA does not consider this alternative protective of public health. In addition, this

alternative does not satisfy the statutory preference for treatment, which is satisfied by other alternatives providing gas treatment.

A detailed assessment of this alternative can be found in Sections 19 and 20 of the RI/FS Report.

Alternative 3 — **Approximate Present Worth Cost: ** $ 5,062,000.**

Synthetic Cover Installation/ Slope Stabilization

This alternative consists of the following components:

- removing sediments and reseeding the wetlands;
- installing a chain linked fence;
- developing a post closure plan;
- upgrading the present surface water runoff management system;
- establishing a cover thickness of 24 inches;
- establishing vegetation;
- installing a synthetic cover on the uncovered area;
- stabilizing the 2:1 side slopes by slightly extending the slope and installing a terrace; and
- gas collection and treatment.

This alternative contains most of the components in Alternative 2 except this alternative includes installing a synthetic cover on the uncovered area of the landfill and stabilizing the 2:1 side slope. Installing the synthetic cover will minimize infiltration. Stabilizing the side slopes will minimize erosion and maintenance as well as protect the integrity of the synthetic cover. Therefore, this alternative complies with RCRA regulations. Also, since infiltration is minimized and the 2:1 slopes are stabilized, this alternative provides improved long term protectiveness by minimizing the potential for groundwater contamination. In this alternative, the slopes would be stabilized by extending the slope slightly and constructing a terrace. Approximately 1 acre of land adjacent to the landfill would have to be acquired to implement this alternative.

Due to the steepness of the side slopes, this alternative will be relatively difficult to implement, taking approximately 9 to 11 months to design and construct. The stability of the slopes will have to be tested during the design phase.

This alternative contains a gas collection and treatment process that would reduce the toxicity of the gas and reduce the risks to public health from exposure to the landfill gas. A discussion of this system is presented in the next section of this document, Section X.B.

Because this alternative would be protective of public health and the environment, and would comply with ARARs, it has been

tentatively selected as the selected remedy, pending a determination of its implementability (see Sections XI of this document).

A detailed assessment of this alternative can be found in Sections 19 and 21 of the RI/FS Report.

** Cost does not include the cost of gas collection and treatment.

Alternative 4 — **Approximate Present Worth Cost:**
Synthetic Cover Installation/ Slope Flattening — **** $ 5,490,000.**

This alternative contains all of the components in Alternative 3 except this alternative utilizes a different technique to stabilize the steep side slopes. In this alternative, the slopes would be extended and flattened until a slope of 3:1 is achieved. This slope is less steep and is recommended in EPA's guidance for constructing covers that comply with RCRA regulations. This alternative would provide the same level of protection as Alternative 3 but would be easier to implement because of the reduction in the steepness of the slopes. Present estimates show this alternative to be slightly more expensive than Alternative 3. Approximately 3 acres of land would have to be acquired to implement this alternative and it would also take about 11 months to design and construct.

Because this alternative would also be protective of public health and comply with ARARs, this alternative has been retained as an alternate selected remedy (see Section XI of this document).

A detailed assessment of this alternative can be found in Sections 19 and 22 of the RI/FS Report.

** Cost does not include the cost of gas collection and treatment.

Alternative 5 — **Approximate Present Worth Cost:**
RCRA Guidance Cover — **** $ 11,670,000.**

This alternative consists of the following components:

- removing sediments and reseeding the wetlands;
- installing a chain linked fence;
- developing a post closure plan;
- upgrading the present surface water runoff management system;
- constructing a cover according to EPA's RCRA guidance which would include flattening the 2:1 side slope, installing a synthetic cover on the flattened slope, placing a clay barrier over entire Site, and establishing vegetation (including placement of a drainage layer); and
- gas collection and treatment.

This alternative is similar to Alternatives 3 and 4 except that it complies with both the RCRA regulations and the specifications in EPA's guidance document discussed in Section VII. The RCRA closure guidance is not an ARAR but is to be considered. Alternatives 3 and 4 would not include all the elements called for in the guidance, but they would meet the RCRA closure performance standards. This alternative provides the same level of protection as the previous two alternatives but is twice the cost. EPA has determined that this alternative is not the most cost effective alternative. Due to the additional requirements, it would take approximately 3 years to design and construct this alternative.

A detailed assessment of this alternative can be found in Sections 19 and 23 of the RI/FS Report.

** Cost does not include the cost of gas collection and treatment.

B. Gas Treatment Technologies Analyzed

Three thermal destruction technologies underwent detailed analysis for the L&RR Site: combustion, flaring and incineration. Thermal destruction consists of burning the landfill gas to destroy the hazardous constituents. Typically, these technologies can destroy between 90% and 99.99% of the gas that enters the system. With the concentration of hazardous constituents from the RI and this removal efficiency, these technologies will be protective of human health and the environment and achieve ARARs. However, each of the technologies has advantages and disadvantages with regards to factors such as implementability and cost which can not be adequately assessed without Site specific pilot tests. A brief discussion of each technology is given below.

A detailed assessment of each technology can be found in Section 24 of the RI/FS Report.

Technology 1 — **Approximate Present Worth Cost: $1,300,000.**

Combustion

The combustion process is a process that burns the landfill gas and also generates electricity as a useful by-product. Therefore, this technology is a resource recovery technology. Several combustion systems have been installed at municipal landfills and have been demonstrated for burning conventional municipal landfill gas, typically achieving 90% destruction. However, little information is available on the effectiveness of burning hazardous constituents. Also, due to the acidic compounds present in the gas, corrosion of the equipment may occur and increase maintenance costs.

Technology 2 **Approximate Present Worth Cost:**
Flaring **$612,000.**

The flaring process is similar to combustion except that it does not contain a generator and therefore will not produce electricity. Flaring has been demonstrated to be effective in removing hazardous constituents in miscellaneous gas streams. Ninety percent (90%) removal efficiencies have been demonstrated. However, corrosion could increase maintenance costs.

Technology 3 **Approximate Present Worth Cost:**
Incineration **$1,277,000.**

Incineration is a two step process which routinely achieves 99 to 99.99% destruction. Incinerators have been demonstrated for burning both municipal landfill gas and gas streams containing hazardous wastes. The technology is readily implementable.

X. DOCUMENTATION OF SIGNIFICANT CHANGES

There are no significant changes from EPA's Proposed Plan in EPA's selected remedy.

XI. THE SELECTED REMEDY

A. Description of the Selected Remedy

The selected remedy has four major components which together form a comprehensive approach to Site remediation. The first two components, upgrading the landfill closure completed to date and treating the landfill gas, are intended to control the source and minimize the potential of hazardous substances migrating from the Site. Remediation of the impacted wetlands is the third major component which will occur after the landfill has been upgraded. The fourth component, Site monitoring, will insure that the landfill and the gas treatment components remain effective.

1. Upgrading the Landfill Closure

The existing landfill closure will be upgraded to meet ARARs and to insure that it effectively contains the hazardous wastes. Two alternatives were selected from the alternatives developed in the FS: Alternative 3: Synthetic Cover Installation/Slope Stabilization and Alternative 4: Synthetic Cover Installation/Slope Flattening. These two alternatives are equally protective. Alternative 3 is estimated to be slightly less expensive. However, due to the steepness of the side slopes, this alternative may be relatively difficult to implement, causing the costs to increase. Also, the stability of the side slopes must be evaluated during the design phase. Due to the

question concerning implementability, Alternative 4 has also been chosen as a possible alternative. The choice between the two alternatives will be specified during the design phase. The components of these alternatives are described below.

Fence Installation: Site security will meet the requirements of 40 CFR § 264.14. To limit Site access and maintain Site security, a chain-linked fence with barbed wire will be constructed around the facility. Along this fence, two access-road gates (at the facility's north and south entrances from the Oxford Turnpike) and two walkway gates (on the northern and southeastern sides of the Site) will be installed. The walkway gates provide convenient access to off-site monitoring wells. The gates will be kept locked and the fence will be posted with warning signs.

Post-closure Plan Development: Closed hazardous waste disposal facilities must be inspected, monitored, and maintained to prevent adverse effects to human health and the environment in accordance with 40 CFR Part 264.110-264.120; 264.300-264.339 and 264.340-264.599. The post-closure plan will specify how these goals will be achieved at L&RR and must be approved by both EPA and the State. The L&RR post-closure plan will contain plans for monitoring groundwater and landfill gas. In addition, the post-closure plan will describe planned operations, or maintenance and inspection activities, and the frequencies of those activities. At L&RR, these activities will include the following:

- inspection and maintenance of gas and groundwater monitoring equipment;
- periodic mowing;
- inspection and maintenance of the cap's integrity;
- inspection and maintenance of the gas collection and treatment system
- inspection and maintenance of surface water management system
- inspection and maintenance of the security fence; and
- protection and maintenance of surveyed benchmarks.

The L&RR post-closure plan will include a schedule of activities planned during the post-closure period. The post-closure period begins upon certification by an independent registered professional engineer that closure has been completed in accordance with the plan. Post-closure care must last for 30 years unless the post-closure plan is amended.

Surface Water Management System: To limit the potential for further environmental impact due to erosion and to minimize cover maintenance, the present surface water management system will be upgraded and expanded. First, a stone-lined perimeter drainage channel will be added to transport high-volume storm flows (i.e., 24 hour, 25-year storm event) to the sedimentation basins. The perimeter channel will collect most of the surface

water. At the southwestern side of the Site, surface water will discharge to the existing roadside ditch along Oxford Turnpike. Second, surface water diversions will be more closely spaced, approximately 200 feet apart on vertical 3:1 slopes. Finally, if the slope is extended, the existing sedimentation pond (P-3) on the northeastern section of the Site will be relocated.

Cover Thickness Establishment: Cover soil consisting of an 18 inch sand layer and a 6 inch topsoil layer capable of supporting vegetation will be added to areas which presently do not have a cover thickness of 24 inches.

Vegetation Establishment: Although vegetation is present on the landfill, it is stressed in some areas. To enhance vegetation, stabilized municipal waste water treatment plant sludge will be incorporated into the top soil. The sludge will be mixed into the soil using a rototiller or disc harrow and the area will be hydroseeded using a sprayed liquid mixture of seed (i.e., grass/legume) and fertilizer. During establishment of the vegetative cover, erosion will be controlled by applying either hay mulch following seeding or a chemical (asphalt) binder during seeding. Prior to use, the sludge will be analyzed to determine whether it meets applicable requirements.

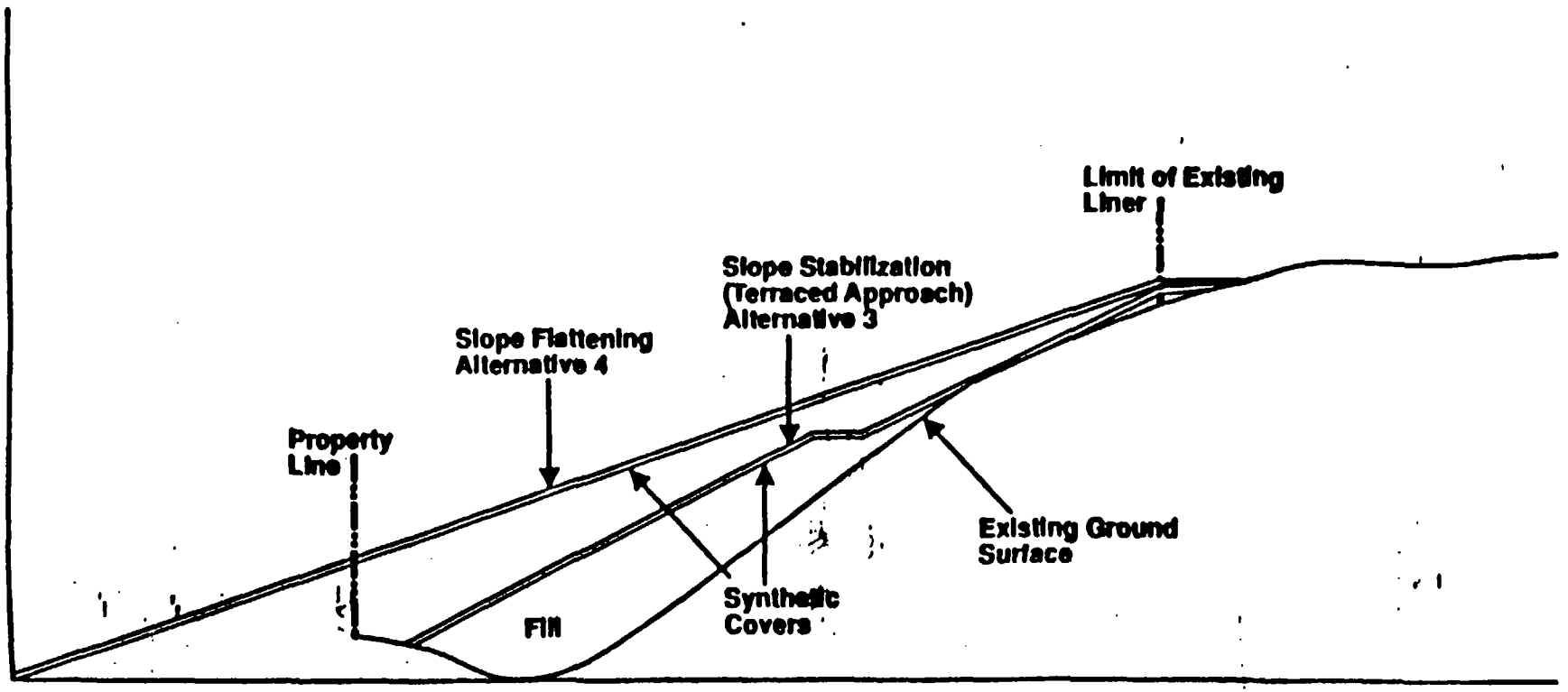
Synthetic Cover Installation/Slope Stabilization: The difference between Alternatives 3 and 4 is the method of stabilizing the 2:1 side slope and the type of synthetic cover utilized. In Alternative 3, the 2:1 slope will be stabilized by extending the slope slightly to a slope of 2.5:1 and constructing a terrace midway down the slope (see Figure XI-1: Comparison of Slope Stabilization Techniques). Approximately 1 acre of land will have to be acquired to construct this alternative. The unlined area encompasses approximately 5 acres. A synthetic membrane will be installed in this uncovered area (see Figure XI-2: Alternative 3). To minimize the potential for slipping, a 20-mil HDPE membrane with surface texture will be installed. In Alternative 4, the 2:1 slope will be extended to a slope of 3:1. Approximately 3 acres of land will be acquired. Since the potential for slipping is much less on a 3:1 slope, a 20-mil PVC geomembrane will be used in this alternative (see Figure XI-3: Alternative 4). Cover soil as described in the section above would then be added on top of the synthetic membrane.

2. Gas Collection and Thermal Destruction

Eighteen gas vents have been installed across the top of the landfill. Each vent is made of 6-inch, slotted PVC pipe, and set 60 to 80 feet into the waste. These vents will be manifolded by a subsurface horizontal pipe system. Using this system the collected gas will be directed to the treatment system located near the southern portion of the Site.

Figure XI-1

Conceptual Comparison of Slope Stabilization Techniques



Landfill & Resource Recovery Site
Alternative 3: Synthetic Cover/Slope Stabilization

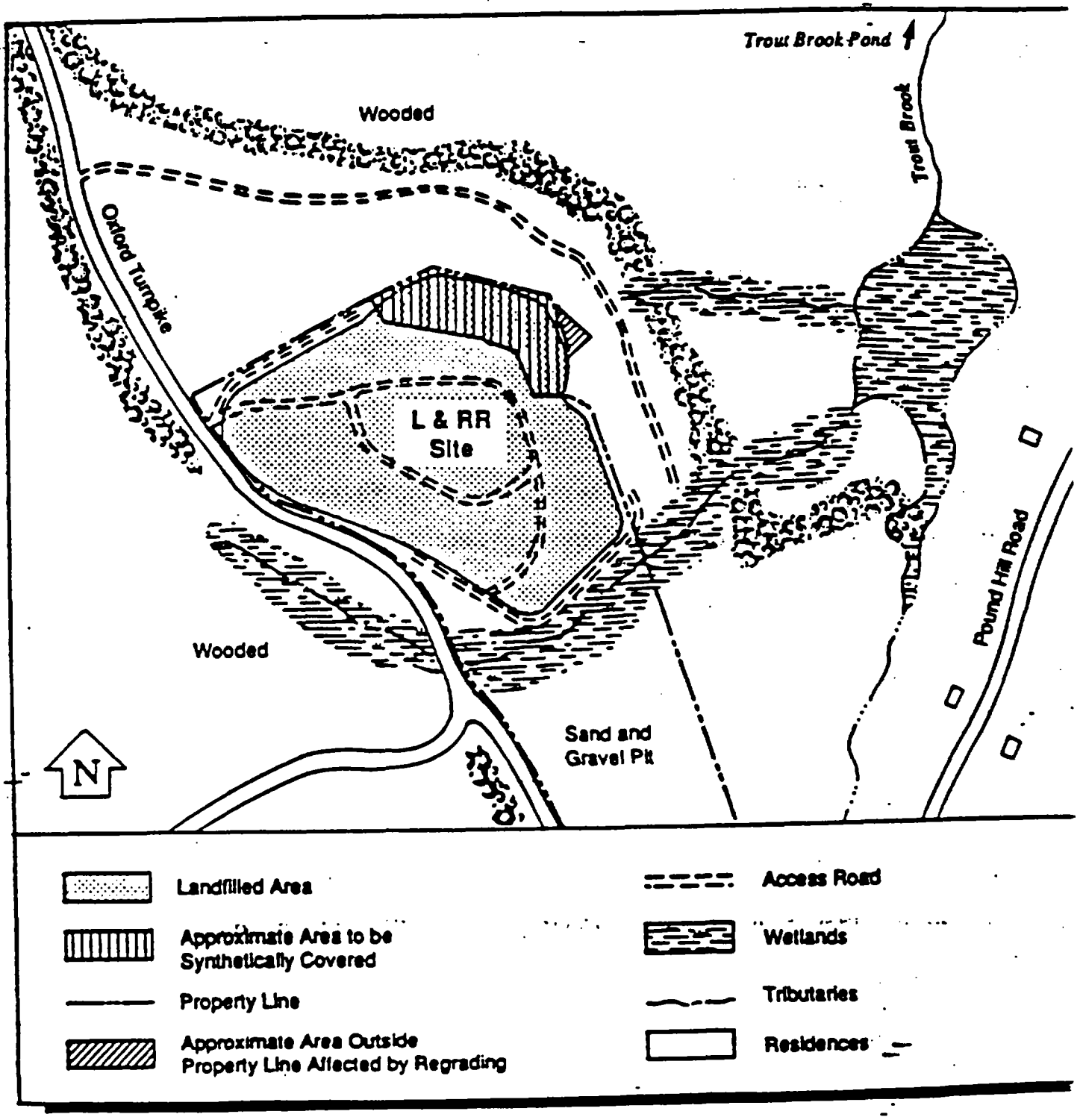
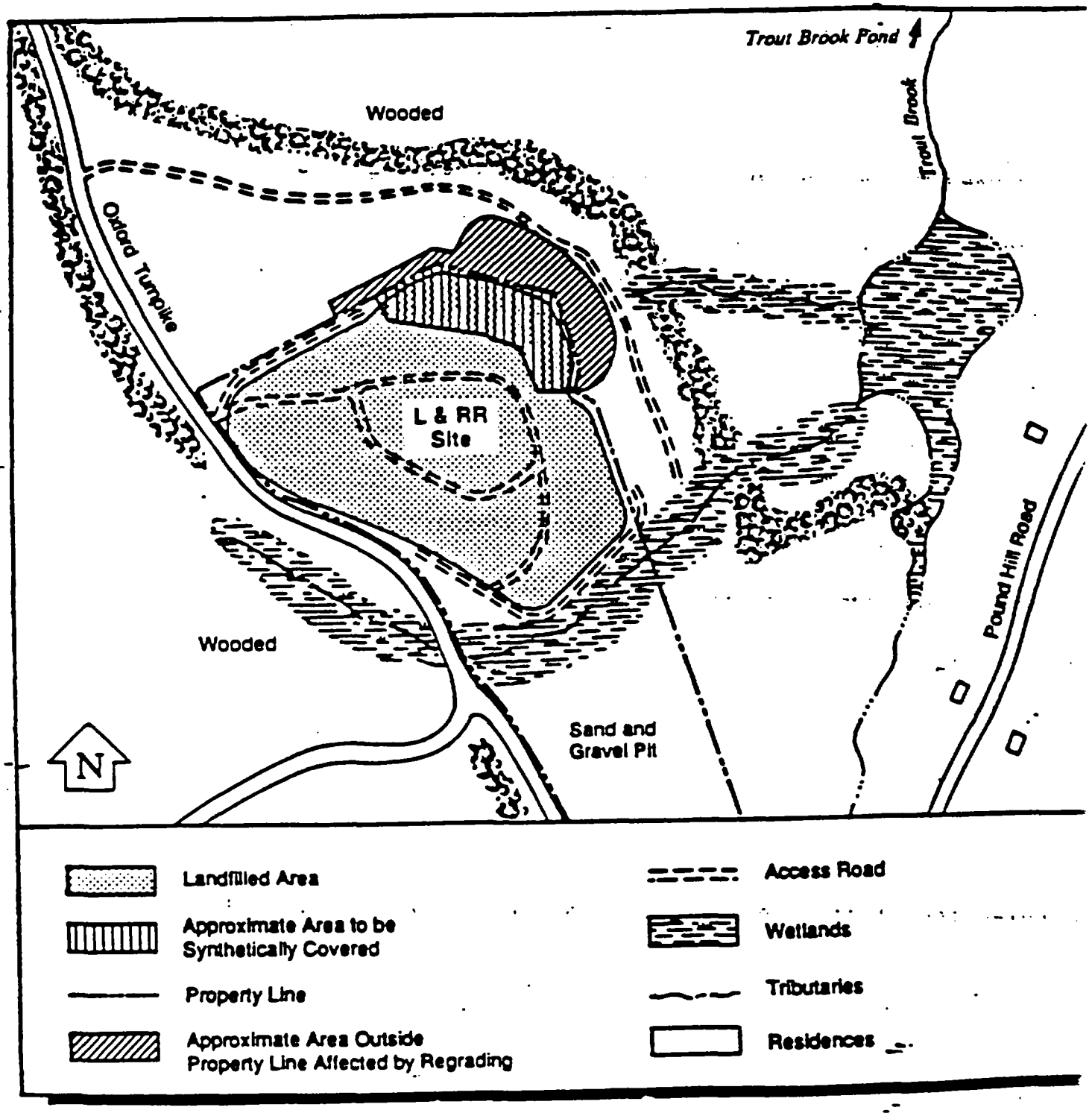


Figure XI-3

Landfill & Resource Recovery Site
Alternatives 4: Synthetic Cover/Slope Flattening



Three thermal destruction technologies have been selected to treat the gas: combustion, flaring and incineration. As discussed above, these technologies will be protective of human health and the environment and achieve ARARs. However, each of the technologies has advantages and disadvantages in regards to factors like implementability and cost which can not be adequately assessed without Site specific pilot tests. Therefore, the specific technology to be utilized for thermal destruction will be chosen by EPA during the design phase when specific information regarding the performance of each is available. A brief description of each technology is given below.

Combustion: Because the landfill gas contains approximately 50% methane, it can be used to generate electricity. Combustion is a four step process that burns the landfill gas and utilizes the energy created from burning the gas to generate electricity. The process is as follows: (1) condensation/acid scrubbing to remove moisture and organic acids; (2) burning the landfill gas in an internal combustion engine; (3) electricity production using generators for resource recovery; and, (4) discharge of combustion products to atmosphere.

Since organic acids tend to bind to water molecules, the moisture present in the landfill gas will be used to remove the acids present in the gas by passing the gas through a condenser. This acid waste stream is a RCRA hazardous waste that will be handled in compliance with the RCRA regulations. To obtain a proper burning mixture, some air must be added to the gas. Auxiliary fuel will be used to bring the engine to the proper operating temperature. After start up, the methane in the landfill gas will be used to fuel the engine. The electricity generated could be transmitted to area transmissions lines for use.

Flaring: The flaring system is similar to combustion except it does not contain a generator to convert the energy created into electricity. The steps are as follows: (1) condensation/acid scrubbing to remove moisture and organic acids; (2) flaring to thermally degrade VOCs, hydrogen sulfide and methane; and, (3) discharge of combustion products to atmosphere. A single enclosed flare unit, 6 feet in diameter and 24 feet high, could be used for a gas generation rate of 775 cfm.

Incineration: Incineration is a two step process as follows: (1) incineration to oxidize hydrogen sulfide, VOCs and methane; and, (2) discharge of combustion products to the atmosphere.

Unlike combustion and flaring, the incineration process is conducted in a closed reaction chamber which operates at a much higher temperature. This chamber also allows greater control over reaction time of the gas. Because of these two factors, incineration has the potential to achieve greater removal efficiencies than combustion and flaring. Furthermore, this

system destroys the organic acids and eliminates the RCRA waste stream.

3. Wetlands Remediation

During the RI, two areas of the wetlands were identified as needing remediation due to cover material erosion and subsequent sedimentation, Sections 1 and 3 (see Figure XI-4: Wetlands Remediation). Additional areas may be defined during the design phase if erosion has caused further damage since the RI was conducted. In these areas, the sand which has eroded from the landfill will be excavated and the wetlands will be revegetated. Approximately 2 to 3 feet of sediment from Section 3 and the southern portion of Section 1 will be excavated. Since the eroded sand is not contaminated, the excavated sediment can be redeposited on-site. To promote wetland revegetation, soils similar to those of the natural wetland will be placed, and sedges and others species will be planted. During revegetation, the natural contour of the wetland will be restored to maintain the easterly flow of the creek toward the main wetland body.

4. Site Monitoring

To insure that the remedy remains protective, both the groundwater and the air will be monitored periodically.

Groundwater Monitoring: The following monitoring wells will compose the groundwater monitoring program.

Wells:			
	MW-101	CW-5 A,B,C	(15 wells)
	MW-102 A,B	CW-6 A,B,C	
	MW-103 A,B	CW-7 A,C	
	MW-104 A,B		

All wells except MW-104 A&B presently exist on-site. MW-104 A&B will be located approximately between well clusters CW-6 and CW-7, near the stream. Well 104A will be located in the ice contact deposits and well 104B in the kame delta deposits.

The above wells will be monitored quarterly for the following parameters: hazardous substance list(HSL) volatile organic compounds (VOCs), pH, temperature, specific conductance, chloride, arsenic, cadmium, iron, manganese and lead. On an annual basis, the following additional constituents will be analyzed for: barium, chromium, fluoride, mercury, nitrate, selenium and silver.

Quarterly monitoring results will be compared to drinking water maximum contaminant levels (MCLs). If an MCL is exceeded at a given well, that well will be resampled and analyzed. Sampling results will be reviewed on a periodic basis to determine if a variation indicative of a plume is present. In addition, the monitoring program will be reviewed after a minimum of five years of monitoring is completed and may be modified.

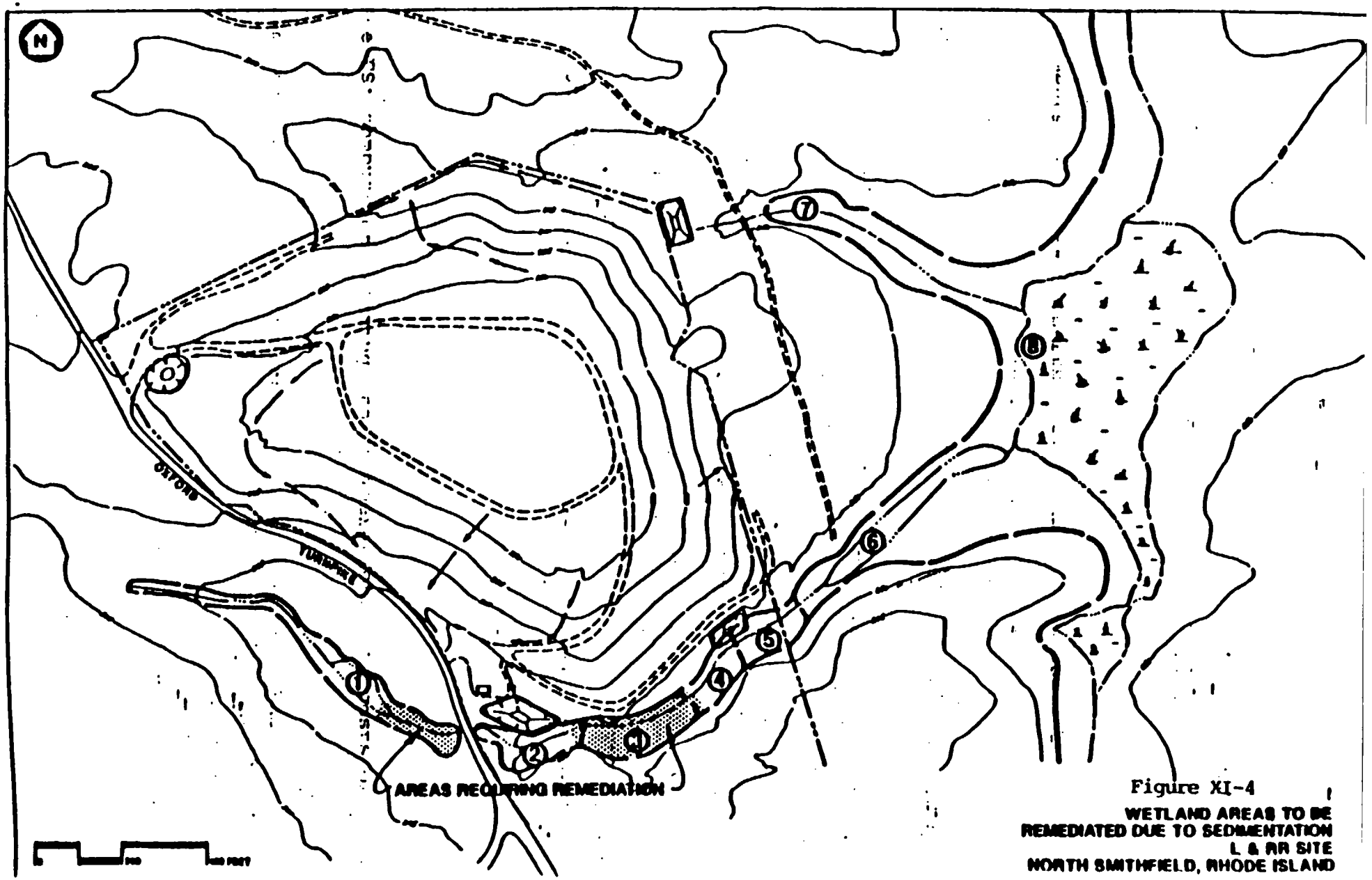


Figure XI-4

WETLAND AREAS TO BE REMEDIATED DUE TO SEDIMENTATION
L & RR SITE
NORTH SMITHFIELD, RHODE ISLAND

During the remedial design, a detailed monitoring plan will be developed and approved by EPA and RIDEM. This plan will incorporate the requirements of this section and at a minimum include a description of the following: sampling techniques, development techniques, analytical methods, QA/QC program, data presentation formats and monitoring well proposal.

The groundwater monitoring program for the L&RR Site has been designed to satisfy the requirements of RCRA detection monitoring (40 CFR 264.98). To meet the requirements of this section, a monitoring program must be based on specific hydrologic conditions and capable of identifying a groundwater contaminant plume.

Air Monitoring: The air monitoring program will depend on the specific technology chosen for gas treatment. This plan will be outlined during the design phase and will specify the monitoring locations, the sampling technique, the indicator parameters and frequency of monitoring. Depending on the technology, this plan may include ambient air monitoring and emissions testing to insure that the system is protecting public health and the environment.

B. Point of Compliance and Target Cleanup Levels

Target cleanup levels must be set when risks are posed to public health and the environment from exposure to contaminants at a site. The point of compliance is the location where the target cleanup levels are met (i.e. the perimeter of a site). The target cleanup levels for the gaseous emissions from the landfill are the Rhode Island Air Toxic Regulations. These regulations set acceptable contaminant specific ambient levels. Since these are ambient levels, the point of compliance will be at the boundary of the Site.

C. Rationale for Selection

The rationale for choosing the selected remedy is based on the assessment of each criteria listed in the evaluation of alternatives section of this document. In accordance with Section 121 of CERCLA, to be considered as a candidate for selection in the ROD, the alternative must have been found to be protective of human health and the environment and able to attain ARARs unless a waiver is granted. In assessing the alternatives that met these statutory requirements, EPA focused on the other evaluation criteria, including, short term effectiveness, long term effectiveness, implementability, use of treatment to permanently reduce the mobility, toxicity and volume, and cost. EPA also considered nontechnical factors that affect the implementability of a remedy, such as state and community acceptance.

EPA found that Alternatives 3 and 4, as described above, while meeting the criteria of protectiveness and compliance with ARARs,

are more cost effective than Alternative 5. A permanent remedy was considered but not selected for reasons described in Section XII.D. below. Alternatives 1 and 2 were rejected as not being protective of public health and the environment.

A number of Site specific factors also impacted EPA's decision for the Site. First, the landfill was presently closed with a synthetic cover over most of the landfill. Second, although a contaminant plume was presently not evident in the groundwater, given the disposal history it is expected that a plume may migrate from the Site in the future. Therefore, the landfill should be closed in a manner that provides the maximum protection possible. The selected remedy will minimize infiltration from the presently uncovered area in order to prevent off-site migration. Third, there is evidence of air impacts from the landfill vents. The selected remedy will include treatment to reduce these impacts. And finally, the remedy will end the erosion into the wetlands from the landfill and remediate present impacts. Based upon these factors and the assessment outlined above, which takes into account the statutory preferences of CERCLA, EPA selected the remedial approach for the Site.

XII. STATUTORY DETERMINATIONS

The remedial action selected for implementation at the L&RR Site is consistent with CERCLA and, to the extent practicable, the NCP.

A. The Selected Remedy is Protective of Human Health and the Environment

The remedy at this Site will permanently reduce the risks presently posed to human health and the environment from exposure to gaseous emissions from the landfill; from sand eroding off the landfill and into the wetlands; and, from infiltration of rain and melted snow through the landfill and into the groundwater.

The potential risks to public health from exposure to the landfill gas will be reduced by treating the landfill gas using a thermal destruction process. The three thermal destruction technologies, combustion, flaring and incineration, typically achieve destruction and removal efficiencies of 90-99.99%. EPA established target cleanup levels based on Rhode Islands Air Toxic Regulations. The annual average ambient air concentrations established in these regulations provide a risk that's within EPA's acceptable target range of 10^{-4} - 10^{-7}. With the results obtained during the RI and the removal efficiencies stated above, these technologies will achieve the target cleanup levels and will protect human health and the environment. Pilot tests will be conducted during the design phase to insure that the selected remedy is protective and monitoring will be conducted after construction to insure that it remains protective.

The present impacts to the wetlands will be remediated by removing the eroded sand and establishing vegetation. The risk of future impact will be minimized by upgrading the existing landfill closure to minimize erosion. Specifically, the remedy includes establishing a vegetative cover, stabilizing steep side slopes and upgrading the surface water management system to minimize erosion and the risks of future impacts to the wetlands.

Although an organic contaminant plume is not yet evident from the analytical data collected to date, the historical data supports the fact that a plume could emerge in the future. The potential risk of contaminating the groundwater will be minimized by minimizing infiltration to the maximum extent practical. Specifically, the selected remedy includes installing a synthetic cover on the uncovered area of the landfill to minimize infiltration and the risk of contaminating the groundwater. Also, the groundwater will be monitored on a periodic basis to insure that the selected remedy remains protective of public health and the environment.

B. The Selected Remedy Attains ARARs

This remedy will meet or attain all applicable or relevant and appropriate federal and state requirements that apply to the Site. Environmental laws which are applicable or relevant and appropriate to the selected remedial action at the L&RR Site are:

Resource Conservation and Recovery Act (RCRA)
Clean Water Act (CWA)
Safe Drinking Water Act
Fish and Wildlife Coordination Act
Executive Order 11990 (Protection of Wetlands)
Clean Air Act (CAA)
Occupational Safety and Health Administration (OSHA)
Rhode Island General Law (RIGL)

Three types of ARARs were identified during the RI/FS: location, chemical and action-specific ARARs. A brief narrative summary of these ARARs follows.

<u>Location-Specific ARARs:</u> Table XII-1 lists the location-specific ARARs that were identified during the planning stages of the RI/FS. This table gives a synopsis of the requirement and how it was considered in the RI/FS. For the L&RR Site, the location-specific ARARs apply primarily to the landfill and the wetlands. During the RI, the existing landfill closure was evaluated according to the requirements outlined in RCRA regulations. As discussed in Section VII, it was determined that the existing landfill closure does not minimize infiltration, does not minimize erosion and does not function with minimum maintenance. The selected remedy meets these requirements by installing a synthetic cover on the uncovered area of the landfill to minimize infiltration and by upgrading the surface water management system, stabilizing the steep side slopes, and establishing a

vegetative cover to minimize erosion and maintenance. Furthermore, the selected remedy will protect the wetlands from future impacts as required by the ARARs for the wetlands such as the CWA.

Chemical-Specific ARARs: Table XII-2 lists the chemical-specific ARARs, criteria, advisories and guidance for the L&RR Site. During the RI, the chemical-specific ARARs were used to assess the contamination at the Site and to conduct the risk assessment. The table gives a synopsis of the requirement and explains how these requirements were considered in the RI/FS. The significant findings are outlined below.

The concentrations of contaminants in the groundwater at the boundary of the Site were below their drinking water maximum contaminant levels (MCLs) and the risk posed by consuming the groundwater was within EPA's acceptable range. The selected remedy includes groundwater monitoring to insure that it continues to achieve ARARs.

For the surface water, some of the samples contained contaminants (cadmium, chromium and zinc) that were slightly above aquatic water quality criteria (AWQC). However, the risk assessment indicated that the risk posed by exposure to the surface water was within EPA's acceptable range and the local environment did not appear stressed by the occasional exceedance. It is not known whether these slight exceedances of the AWQC are caused by releases from the landfill or by other causes including natural causes. Releases from the landfill that would contribute to surface water would come through groundwater, and can therefore be detected in the planned groundwater monitoring which includes cadmium and chromium on a quarterly basis. In addition, the 1983 Court Order between RIDEM and L&RR, Inc., calls for surface water monitoring. EPA believes that the selected remedy will prevent the landfill from causing or contributing to AWQC exceedances in the surface water. The groundwater monitoring plan will confirm whether or not releases of contaminants from the landfill are affecting the surface water after completion of the remedy. If after completion of the remedy releases that contribute to exceedances of AWQC are not prevented, further remedial action will be taken acording to the provisions of CERCLA and the NCP.

Finally, the existing landfill emissions from the uncapped vents exceeded Rhode Islands Air Toxic Regulations and pose a potential threat to public health. The selected remedy utilizes thermal destruction to reduce the concentration of contaminants in the landfill gas. With the results in the RI and the removal efficiency of 90-99.99%, the selected remedy will achieve these ARARs. Pilot tests will be conducted during the design phase to insure that the selected remedy achieves ARARs.

Action-Specific ARARs: Table XII-3 lists the action-specific ARARs which were common to all the containment alternatives (Alternatives 2-5). The table gives a synopsis of the requirement. During the remedial action, the selected remedy will comply with all relevant and appropriate RCRA requirements, including the general closure performance standard (40 CFR § 264.111), and the monitoring, closure and post closure requirements of 40 CFR Subparts F and G, the landfill closure requirements of § 264.310, and the other relevant and appropriate requirements of 40 CFR Subparts B-E, N and O. Because there is presently no off-site release of groundwater contamination, the relevant and appropriate portions of Subpart F are those dealing with detection monitoring, 40 CFR § 264.90-.98. The selected remedy will also comply with OSHA requirements such as those which apply to working with hazardous materials. Additionally, wetlands remediation will be conducted according to the CWA and the other requirements, listed in Table XII-1, associated with dredging and restoring wetlands. Finally, State requirements associated with transporting and utilizing municipal waste water treatment sludge will be followed during establishment of vegetation.

C. The Selected Remedial Action is Cost Effective

In the FS, a range of alternatives were developed for remediating the landfill. Three of these alternatives, Alternatives 3, 4 and 5, were equally protective and attained ARARs. Once EPA has identified alternatives that are protective and attain ARARs, EPA analyzes those alternatives to determine a cost-effective means of achieving the cleanup. Alternatives 3 and 4 were similar in cost with a net present worth of $5,062,000 and $5,490,000, respectively. Alternative 5, however, was over twice the cost of both of these alternatives with a net present worth of $11,670,000. The selected remedy will utilize either Alternative 3 or 4, the most cost effective of the alternatives developed in the FS for remediating the landfill. During design, if factors such as implementability influence the cost of these alternatives, the most cost-effective one will be chosen.

For treating the landfill gas, three technologies were developed in the FS: combustion, flaring and incineration. The costs of each of these technologies were as follows: $1,300,000, $612,000 and $1,277,000, respectively. However, the estimated costs are highly dependent on the cost of operating and maintaining the system and could vary significantly due to such things as equipment replacement costs due to corrosion. Section 121(a) of CERCLA requires EPA to take into account the total short- and long-term costs, including the cost of maintenance for the entire period during which such activities are required. Therefore, before EPA can select the most cost effective technology from these three, pilot tests are needed to assess the impacts of the L&RR landfill gases on the operating costs of each system.

Table XII-1
LOCATION-SPECIFIC ARARS
L&R SITE

SITE FEATURES	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS	APPLICATION FOR THE RI/FS
Landfill				
Federal Regulatory Requirements	RCRA - Standards for Owners and Operators of Permitted Hazardous Waste Facilities 40 CFR 264.13-.16	Relevant and Appropriate	General facility requirements outline waste analysis, security measures, and training requirements.	Because RCRA-listed hazardous wastes were p before 1980, RCRA Subtitle C requirements a relevant and appropriate.
	RCRA - Preparedness and Prevention (40 CFR 264.30 - 264.37)	Relevant and Appropriate	This regulation outlines safety equipment and spill-control requirements for hazardous waste facilities. Part of the regulation includes a requirement that facilities be designed, maintained, constructed, and operated so that the possibility of an unplanned release threatening human health or the environment could be minimized.	RCRA requirements were considered when evaluating the effectiveness of the present landfill, and will be further considered when evaluating the design of potential alternatives.
	RCRA - Contingency Plan and Emergency Procedures (40 CFR 264.50 - 254.56)	Relevant and Appropriate	This regulation outlines the requirements for emergency procedures to be used following explosions and fires. This regulation also requires that threats to public health and the environment be minimized.	RCRA requirements were considered when evaluating the effectiveness of the present landfill, and will be further considered when evaluating the design of potential alternatives.
	RCRA - Groundwater Protection 40 CFR 264.98	Relevant and Appropriate	Under this regulation, groundwater monitoring program requirements are outlined.	Groundwater monitoring must be considered for each alternative. During alternatives analysis, the location and depth of monitoring wells will be evaluated for use in this monitoring program.
	RCRA - Closure and Post-closure (40 CFR 264.110 - 264.120)	Relevant and Appropriate	This requirement details the specific requirements for closure and post-closure of hazardous waste facilities.	Long-term monitoring and maintenance portions of the regulation will be considered during remedial design.

Table XII-1 - continued

LOCATION-SPECIFIC ARARs
LARR SITE

SITE FEATURES	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS	APPLICATION FOR THE RI/FS
Federal Regulatory Requirements (continued)	RCRA - Landfills (40 CFR 264.300 - 24.339)	Relevant and Appropriate	Covers design and operating requirements, as well as post-closure care options for landfills. Closure and post-closure care must be attained in accordance with the outlined disposal requirements.	The landfill cover must comply with requirements for disposal closure. Performance evaluation of existing cover has been completed and any potential remedial alternatives must address areas of non-compliance to attain disposal closure.
	Fish and Wildlife Coordination Act (16 U.S.C. 661)	Applicable	This regulation requires any federal agency proposing to modify a body of water to consult with the U.S. Fish and Wildlife Services. This requirement is addressed under CWA Section 404.	During the identification, screening, and evaluation of alternatives, the effects on wetlands will be evaluated. If an alternative would modify a body of water, U.S. Fi and Wildlife Services will be consulted.
State Regulatory Requirements	Rhode Island Rules for Solid Waste Management Facilities (RIGL 23 - 18.9)	Applicable	Outlines regulations for sanitary landfills. Includes initial investigation, site groundwater, operating and closure plans. Closure requirements include 24 inches of cover material to be maintained on all surfaces and faces of the landfill.	Potential remedial alternatives must addr areas of landfill cover that do not meet 24-inch requirement, as well as any other areas of noncompliance.
	Rhode Island Hazardous Waste Rules and Regulations (RIGL 23 - 18.9)	Relevant and Appropriate	These requirements correspond to RCRA hazardous waste regulations. Compliance with RCRA will generally achieve compliance with these regulations.	Where RCRA regulations have jurisdiction, these requirements will generally corresp and be attained if more stringent than RC
Wetlands, Trout Brook				
Federal Regulatory Requirements	Clean Water Act (CWA) - 40 CFR Section 404	Applicable	Regulates discharges of dredged or fill material into U.S. waters.	Protection of the adjacent wetland. Appl to sedimentation caused by erosion of la fill cap fill material.
State Regulatory Requirements	Rhode Island Freshwater Wetlands Law-Rhode Island General Law (RIGL) - Title 2 Chapter 1 (2-1)	Applicable	Regulates and preserves swamps, marshes, and wetlands. Includes maintaining capacity to support wildlife and act as buffer zone for flood conditions.	Considerations such as reducing sediment to maintain the adjacent wetland's water storage capabilities will be addressed f the RI/FS.
	Rhode Island Water Quality Regulations (RIGL 46-12, 42-17.1, 42-35)	Applicable	Regulates restoration, enhancement, and preservation of state waters.	Potential remedial alternatives must add this regulation because the adjacent wetl is a state water.

Table XII-1 - continued
LOCATION-SPECIFIC ARARS
LANG SITE

SITE FEATURES	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS	APPLICATION FOR THE RI/FS
State Regulatory Requirements (continued)	Rhode Island Water Quality Standards (RIGL 46-12)	Applicable	Water quality standards to be maintained in state waters. Generally, a chemical-specific ARAR, but applicable since it provides physical criteria, such as Best Management Practices (BMPs), to control sedimentation.	During identification, screening, and evaluation of alternatives, BMPs will be considered to control sedimentation to the wetland caused by erosion of the landfill cover material.
Federal Criteria, Guidance, Advisories to be Considered	Wetlands Executive Order (EO 11990)	To be Considered	Prohibits the undertaking of new construction in wetlands.	This regulation will be considered during the RI/FS for use in planning remedial actions.
	EPA Guidance - "Covers for Uncontrolled Hazardous Waste Sites" (EPA/540/2-85/002)	To be Considered	Outlines the three components that offer detailed guidance for the design of a cover system which will achieve the specified performance standards of RCRA landfill covers.	These design guidance criteria were used for the preliminary cover assessment as a baseline for determining the compliance of the existing cover with RCRA requirements. These criteria will also be considered during alternative development and evaluation.

Table XII-2
CHEMICAL-SPECIFIC ARARS AND CRITERIA, ADVISORIES, AND GUIDANCE
L&RR SITE

Requirement Type	Requirement	Requirement Synopsis	Consideration in the RI/FS
Federal Regulatory Requirements	SDWA - Maximum Contaminant Levels (MCLs) (40 CFR 141.11 - 141.16)	MCLs have been promulgated for a number of organic and inorganic contaminants. These levels regulate the concentration of contaminants in public drinking water supplies, but may also be considered relevant and appropriate for groundwater aquifers used for drinking water.	When the risks to human health due to consumption of groundwater were assessed, contaminant concentrations were compared to their MCLs. Only iron and manganese exceeded their secondary levels. Secondary standards are not health-based; therefore, iron and manganese are not considered contaminants of concern.
Federal Criteria, Advisories, and Guidance			
	Federal Ambient Water Quality Criteria (AWQC)	Federal AWQC are health-based criteria that have been developed for 95 carcinogenic and noncarcinogenic compounds.	AWQC were considered in characterizing risks to human health and aquatic organisms due to contaminant concentrations in the wetlands and Trout Brook. Because this water is not used as a drinking water source, the criteria developed for aquatic organisms were used,
	Health Advisories (EPA Office of Drinking Water)	Health advisories are estimates of risk due to consumption of contaminated drinking water; they consider noncarcinogenic effects only.	Health advisories were considered for contaminants in groundwater that may be used for drinking water.
	EPA Risk Reference Doses (RfDs)	RfDs are dose levels developed by EPA for noncarcinogenic effects.	EPA RfDs were used to characterize risks due to exposure to groundwater contaminants. They were considered for noncarcinogens including 2-butanone and lead.
	EPA Carcinogen Assessment Group Potency Factors	Potency factors are developed by EPA from Health Effects Assessments or evaluation by the carcinogen assessment group.	EPA carcinogenic potency factors were used to compute the individual incremental cancer risk resulting from exposure to arsenic.

Table XII-2 - continued

CHEMICAL-SPECIFIC ARARs AND CRITERIA, ADVISORIES, AND GUIDANCE
L&R SITE

Requirement Type	Requirement	Requirement Synopsis	Consideration in the RI/FS
	Acceptable Intake - Chronic (AIC) and Subchronic (AIS) - EPA Health Assessment Documents	AIC and AIS values are developed from RfDs and HEAs for noncarcinogenic compounds.	AIS and AIC values were used to characterize the risks due to several noncarcinogens in groundwater and surface water. These noncarcinogens include 2-butanone, trans-1,2-dichloroethene, 1,1-dichloroethane, lead, and zinc.
Rhode Island Criteria, Advisories, and Guidance	Rhode Island Water Quality Standards (RIGL 46-12)	Freshwater guidelines were developed for several organics and inorganics.	Water quality standards were compared to AWQCs for compounds such as toluene and arsenic.
	Rhode Island Air Toxics Regulation	Emissions standards developed for traditional and nontraditional stationary sources including landfill vents.	Air modeling results were compared to these regulations when airborne risks were characterized.

Table XII-3
ACTION-SPECIFIC ARARS

LANDFILL AND RESOURCE RECOVERY

	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS
Federal Regulatory Requirements	RCRA - Subpart B: General Facility Standards	Relevant and Appropriate	General facility requirements outline waste analysis, security measures, and training requirements.
	RCRA - Subpart C: Preparedness and Prevention (40 CFR 264.30 - 264.37)	Relevant and Appropriate	This regulation outlines safety equipment and spill-control requirements for hazardous waste facilities. Part of the regulation includes a requirement that facilities be designed, maintained, constructed, and operated to minimize the possibility of an unplanned release that could threaten human health or the environment.
	RCRA - Subpart D: Contingency Plan and Emergency Procedures (40 CFR 264.50 - 264.56)	Relevant and Appropriate	This regulation outlines the requirements for emergency procedures to be used following explosions and fires. This regulation also requires that threats to public health and the environment be minimized.
	RCRA - Subpart F: Releases From Solid Waste Management Units	Relevant and Appropriate	Under this regulation, groundwater monitoring program requirements are outlined.
	RCRA - Subpart G: Closure and Post-Closure (40 CFR 264.110 - 264.120)	Relevant and Appropriate	This requirement details the specific requirements for closure and post-closure of hazardous waste facilities.

Table XII-3 - continued
ACTION-SPECIFIC ARARS

LANDFILL AND RESOURCE RECOVERY

	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS
Federal Regulatory Requirements (continued)	RCRA - Subpart N: Landfills (40 CFR 264.300 - 264.339)	Relevant and Appropriate	Covers design and operating requirements, as well as post-closure care options for landfills. Closure and post-closure care must be attained in accordance with either the outlined disposal requirements or by the site-specific alternate method.
	RCRA - Subpart O: Incinerators (40 CFR 264.340 - 264.399)	Relevant and Appropriate	This regulation specifies the performance standards, operating requirements, monitoring, inspection, and closure guidelines of any incinerator burning hazardous waste.
	Clean Water Act (CWA) (Section 404)	Applicable	Regulates discharges of dredged or fill material into U.S. waters.
	Clean Air Act - National Air Quality Standards for Total Suspended Particulates (40 CFR 50.6 - 50.7)	Relevant and Appropriate	This regulation specifies maximum primary and secondary 24-hour concentrations for particulate matter.
	OSHA - General Industry Standards (29 CFR 1910)	Applicable	This regulation specifies the 8-hour, time-weighted average concentrations for various organic compounds.
	OSHA - Safety and Health Standards for Federal Service Contracts (29 CFR 1926)	Applicable	This regulation specifies the type of safety equipment and procedures to be followed during site remediation.
	OSHA - Recordkeeping, Reporting, and Related Regulations (29 CFR 1904)	Applicable	This regulation outlines the record-keeping and reporting requirements for an employer under OSHA.
	DOT Rules for the Transportation of Hazardous Materials (49 CFR 107, 171.1 - 171.500)	Applicable	This regulation outlines procedures for the packaging, labeling, manifesting, and transport of hazardous materials.
	Fish and Wildlife Coordination Act (16 U.S.C. 661)	Applicable	This regulation requires any federal agency that proposes to modify a body of water to consult with the U.S. Fish and Wildlife Services. This requirement is addressed under CWA Section 404.

Table XII-3 - continued
ACTION-SPECIFIC ARARS

LANDFILL AND RESOURCE RECOVERY

	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS
State Regulatory Requirements			
	Rhode Island Rules for Solid Waste Management Facilities (November 1, 1982)	Applicable	Outlines regulations for sanitary landfills. Includes initial investigation, site groundwater, and operating and closure plans. Closure requirements include 24 inches of cover material to be maintained on all surfaces and faces of the landfill.
	Rhode Island Hazardous Waste Rules and Regulations (June 28, 1984)	Relevant and Appropriate	These requirements correspond to RCRA hazardous waste regulations. Compliance with RCRA will generally achieve compliance with these regulations.
	Rhode Island Freshwater Wetlands Law - Rhode Island General Law (RIGL) - Title 2 Chapter 1 (2-1)	Applicable	Regulates and preserves swamps, marshes, and wetlands. Includes maintaining capacity to support wildlife and act as buffer zone for flood conditions.
	Rhode Island Water Pollution Control Law (RIGL 46 - 12)	Relevant and Appropriate	These requirements correspond to CWA regulations. Compliance with the relevant sections of CWA will generally achieve compliance with these requirements.
	Rhode Island Water Quality Regulations (RIGL 46-12, 42-17.1, 42-35)	Applicable	Restoration, enhancement, and preservation of state waters.
	Rhode Island Water Quality Standards (RIGL 46-12)	Applicable	Water quality standards to be maintained in state waters. Generally, a chemical-specific ARAR, but applicable because it provides physical criteria such as Best Management Practices (BMPs) to control sedimentation.
	Rhode Island Air Pollution Control Regulations (August 2, 1967)	Relevant and Appropriate	Details the requirements, limitations, and exemptions of state air emission regulations for specified substances.
	Rhode Island Air Pollution Control Act (23-23, 23-23.1)	Relevant and Appropriate	Outlines the policy of preserving, protecting, and improving the air resources of Rhode Island.

Table XII-3 - continued

ACTION-SPECIFIC ARARS

LANDFILL AND RESOURCE RECOVERY

	REQUIREMENTS	STATUS	REQUIREMENT SYNOPSIS
State Regulatory Requirements			
	Rhode Island Rules and Regulations Pertaining to the Disposal, Utilization, and Transportation of Wastewater Treatment Facility Sludge. (September 1985)	Applicable	This requirement applies to the disposal of sludge by land application or incorporation of the sludge into the soil for silvicultural purposes.
	Rhode Island Air Toxic Regulations (Regulation No. 22)	Applicable	Limits the emission of listed substances from stationary sources.
Federal Criteria, Guidance, Advisories to be Considered			
	Wetlands Executive Order (EO 11990)	To be Considered	Prohibits the undertaking of new construction in wetlands, which includes dredging.
	EPA Guidance Document - "Covers for Uncontrolled Hazardous Waste Sites" (EPA/540/2-85/002)	To be Considered	Outlines the three components that offer detailed guidance for the design of a cover system which will achieve the specified performance standards of RCRA landfill covers.

D. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

During the FS, EPA developed one alternative that was considered a permanent solution, Alternative 6. This alternative consisted of excavating the landfill wastes; incinerating the removed wastes at an off-site, RCRA compliant facility; and, wetlands sediment removal and disposal. However, this alternative was eliminated from further consideration during the initial screening process for a number of reasons. The significant reasons are summarized below.

First, significant public health and environmental risks would be posed by its implementation. Excavation of the wastes is likely to release VOCs and particulates to the atmosphere, including asbestos and metal fibers known to be disposed at the Site, creating both on-site and off-site risks due to inhalation. Second, because the area of hazardous waste cannot be clearly defined, it was assumed that all of the landfill wastes must be removed and treated. It would take approximately 90 years to implement this alternative. Third, incinerator capacity nation wide is insufficient for the quantity of wastes in the landfill and extremely costly. The estimated cost was $2.6 billion dollars. A more detailed discussion of the reasons for elimination of the excavation and treatment alternative is presented in Appendix AA of the RI/FS Report.

In conclusion, the long term uncertainties associated with the selected remedy, a land disposal remedy, are much less than the risks posed, the implementation problems and the costs associated with implementing a permanent remedy. Furthermore, the selected remedy includes Site monitoring to insure that it remains protective. Therefore, the selected remedy utilizes permanent solutions and alternative treatment to the maximum extent practical.

The selected remedy identifies three technologies to treat the landfill gas. One of these technologies, combustion is considered a resource recovery technology because it generates electricity while destroying the hazardous constituents in the gas. This factor may reduce the costs of implementing this technology. EPA will consider this factor when selecting the gas treatment technology during the design phase.

E. The Selected Remedy Partially Satisfies the Preference for Treatment as a Principal Element

As stated above, excavation and treatment of the source material is impractical, involves unacceptable risks and is not cost effective. The selected remedy has three components: upgrading the landfill closure; treating the landfill gas and monitoring the Site. The second component, treating the landfill gas, will

reduce the volume, toxicity and mobility of the hazardous substances in the gas and the risks posed from exposure. Therefore, the gas treatment component partially satisfies the preference for treatment as a principal element of the remedy.

XIII. STATE ROLE

The Rhode Island Department of Environmental Management (RIDEM) has reviewed the various alternatives presented in the Feasibility Study and EPA's preferred alternative as presented in the Proposed Plan. The State has also reviewed the Remedial Investigation and Feasibility Study to determine if the selected remedy is in compliance with applicable or relevant and appropriate State environmental laws and regulations. The RIDEM concurs with the components of the selected remedy for the L&RR Site which are consistent with the 1983 Court Order and Consent Order and Agreement between RIDEM and L&RR, Inc. In regards to the additional components, RIDEM recognizes that they are not inconsistent with the 1983 Court Order and provide additional protection. RIDEM also recognizes that EPA's selected remedy, are required by CERCLA and the NCP. A copy of the declaration of concurrence is attached as Appendix C.

APPENDIX A

RESPONSIVENESS SUMMARY

Landfill & Resource Recovery Site

LANDFILL & RESOURCE RECOVERY SITE
Responsiveness Summary

TABLE OF CONTENTS

Preface

The U.S. Environmental Protection Agency (EPA) held a public comment period from July 20, 1988 through September 2, 1988 to provide an opportunity for interested parties to comment on EPA's Remedial Investigation (RI), Feasibility Study (FS), and Proposed Plan for the Landfill and Resource Recovery Site (L&RR) in North Smithfield, Rhode Island. On August 10, 1988, EPA held an informal public hearing to provide an opportunity for the public to submit oral comments to EPA.

The purpose of this Responsiveness Summary is to document EPA's responses to the comments and questions raised during the public comment period. EPA considered all of the comments summarized in this document prior to the Agency's final selection of a remedy for the L&RR Site.

This Responsiveness Summary is organized into the following sections:

I. Responsiveness Summary Overview -- This section briefly outlines the history of the Site and the remedial alternatives evaluated in the FS, including EPA's preferred alternative. This section also includes an overview of the comments that EPA received during the public comment period.

II. Background on Community Involvement and Concerns -- This section provides a brief history of community interests and concerns regarding the L&RR Site.

III. Summary of Comments Received and EPA Responses -- This section provides a detailed summary of both the written and oral comments received during the public comment period and provides EPA's responses to these comments. Part 1 summarizes comments received from citizens and other community interest groups. Part 2 summarizes comments from the Rhode Island Department of Environmental Management (RIDEM). Part 3 summarizes comments received from potentially responsible parties (PRPs). All of the parts are arranged by subject matter.

IV. Remaining Concerns -- This section describes concerns that will continue to be addressed by EPA during design and implementation of the selected remedy.

Attachment A -- This attachment includes a list of the community relations activities conducted by RIDEM and EPA during the remedial history of the Site.

I. RESPONSIVENESS SUMMARY OVERVIEW

A. Site Background

The L&RR Site is an inactive landfill that covers approximately 28 acres of a 36 acre parcel of land on Oxford Turnpike in North Smithfield, Rhode Island. The landfill was reportedly used from 1927 until 1985 for the disposal of commercial, industrial, and residential waste. Between 1977 and 1979, the landfill reportedly accepted hazardous waste. From 1974 to 1985, the landfill was operated by Landfill and Resource Recovery, Incorporated (L&RR, Inc.), the current property owners.

In 1979, L&RR, Inc. covered what they defined as the hazardous waste area of the landfill with a synthetic cover. The Site was added to the Superfund National Priorities List (NPL), a list of the nation's hazardous waste sites eligible to receive federal Superfund monies for cleanup, in 1982.

In 1985, the landfill owners ceased accepting wastes and began closing the landfill as specified in plans included in a 1983 Court Order and Consent Order and Agreement, referred to in the remainder of this document as "the 1983 Court Order", between RIDEM and L&RR, Inc. As part of this process, the landfill owner covered approximately 80% of the landfill with another synthetic cover and soil to support vegetation.

In 1988, EPA completed a comprehensive study at the L&RR Site called a Remedial Investigation/Feasibility Study (RI/FS). The RI was conducted to define the nature and extent of contamination in the groundwater, air, and nearby surface waters. The FS was conducted to identify and evaluate remedial alternatives that would be effective in addressing contamination at the Site. The Record of Decision (ROD) is written at the end of the RI/FS phase of the Superfund process and describes EPA's selected remedy as well as EPA's rational for selection.

B. Overview of Remedial Alternatives and EPA's Proposed Plan

Using the information gathered during the RI, EPA identified three general objectives for the Site: 1) treat the landfill gas to reduce the potential public health risks from exposure to the landfill vent emissions; 2) restore the wetlands that have been affected by erosion from the landfill and prevent future adverse impacts caused by erosion; and 3) close, maintain, and monitor the landfill so that it is protective of public health and the environment and complies with federal and state regulations.

After identifying site-specific objectives, EPA developed and conducted a detailed analysis of five remedial alternatives and three gas treatment technologies for the Site. The remedial alternatives and the gas treatment technologies analyzed for the L&RR Site in the FS are summarized in the following sections.

1. Remedial Alternatives

No Action (Alternative 1). This alternative would consist solely of long-term groundwater monitoring.

Vegetation Establishment (Alternative 2). This alternative would involve upgrading the existing landfill closure by covering the landfill with 24 inches of soil and planting vegetation. This alternative would also include the following components: removing sediments from and reseeding the wetlands; installing a fence around the site; developing a landfill post-closure plan; upgrading the surface water runoff management system; and installing a passive gas collection system.

Synthetic Cover Installation/Slope Stabilization (Alternative 3). This alternative would include all of the components of Alternative 2 but would also involve stabilizing the steeply sloping sides of the landfill in the northeast portion of the Site by grading the slope and adding a terrace. Then a synthetic cover would be installed over the stabilized slope. Additional soil would be placed on the synthetic cover and vegetation would be established. In addition, this alternative includes installing a gas collection and treatment system rather than the passive gas collection system in Alternative 2.

Synthetic Cover Installation/Slope Flattening (Alternative 4). This alternative is identical to Alternative 3 except the steep slopes would be stabilized by flattening them to a greater degree.

RCRA Cover Guidance (Alternative 5). This alternative would involve flattening and covering the steep sides of the landfill as well as placing a clay barrier, drainage layers and a new vegetative cover over the entire landfill. This alternative was developed according to an EPA guidance document for constructing covers for hazardous waste sites. Alternative 5 also would include all of the other components included in Alternatives 3 and 4 and gas treatment.

2. Gas Treatment Technologies

Combustion. Combustion would entail burning the landfill gas in an internal combustion engine to produce electricity as a useful by-product.

Flaring. The flaring process would burn the landfill gas in a manner similar to combustion but does not produce electricity.

Incineration. Incineration would burn landfill gases at high temperatures in a closed reaction chamber.

3. EPA's Proposed Plan

EPA's selection of a preferred alternative, as outlined in the Proposed Plan, was the result of a comprehensive evaluation and screening process. EPA's Proposed Plan included the following three components:

- The existing landfill closure would be upgraded to effectively contain the wastes. EPA selected Alternatives 3 and 4 as the Agency's preferred alternatives for this component of the Proposed Plan. EPA will choose one of the two alternatives during the remedial design phase of the project after site-specific tests have been conducted;

- A landfill gas collection and thermal destruction system would be constructed to treat the landfill gas. EPA has chosen three thermal destruction technologies for treatment of the landfill gas. The specific technology will be selected by EPA during the design phase of the project, when specific information regarding the performance of each technology is available; and,

- The groundwater and air would be monitored on a regular basis to ensure the Site remains protective of public health and the environment.

For more details on the FS alternatives and EPA's preferred alternatives, refer to the Proposed Plan.

C. Overview of Comments Received During the Public Comment Period

EPA received comments from three community members, RIDEM, technical and legal representatives of L&RR, Inc., and General Dynamics. In Section III of this document, these comments are summarized and EPA responses are provided. A general overview of the comments received is provided below.

1. Overview of Comments from Community Members

Community members, including a representative of Protect Our Water, a local citizens' group, indicated general support of EPA's Proposed Plan. However, each commenter expressed serious concern about the possibility that the landfill owner might operate the landfill gas treatment system. Area residents also expressed concern that the groundwater monitoring wells are not close enough together to ensure that a contaminant plume would be detected. Community comments and EPA responses are provided in Section III, Part 1 of this document.

2. Overview of Comments from RIDEM

In general, RIDEM recommends that EPA consider the implementation of the closure measures outlined in the 1983 Court Order between RIDEM and L&RR, Inc., combined with wetlands restoration as the remedy for the L&RR Site. RIDEM stated that EPA should provide additional justification to support the need for a synthetic cover on the uncovered portion of the landfill. RIDEM's comments and EPA responses are provided in Section III, Part 2 of this document.

3. Overview of Comments from the Potentially Responsible Parties (PRPs)

Wehran Engineers, Inc., and Dean Temkin, Esq., submitted extensive comments on behalf of the owner and operator of the L&RR Site. Both commenters stated their strong belief that the 1983 Court Order between RIDEM and L&RR, Inc., includes appropriate and adequate measures to ensure protection of public health and the environment, and that no additional remedy is needed. Other general issues addressed by the commenters included the following:

- The appropriateness of the risk assessment exposure assumptions relating to the landfill vent emissions;
- The validity of the model used by EPA to measure the performance of the landfill;
- EPA's interpretation of which federal and state regulations must be complied with; and,
- The appropriateness of including wetlands remediation as part of a Superfund action.

The commenters also included clarifications of the Site history, particularly relating to the 1983 Court Order between RIDEM and L&RR, Inc. PRP comments and EPA responses to these comments are provided in Section III, Part 3 of this document.

II. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

According to Site records, community concern about and interest in the L&RR Site has been moderate to strong since the mid 1970s, when trucks travelling to and from the landfill caused most neighbors to become aware of the landfill for the first time. In response to complaints about L&RR and other hazardous waste sites in the area, two citizens groups formed -- Protect Our Waters (POW) and Saving the Environment of North Smithfield (SENS). These groups were very active in the late 1970s, coordinating media events, disseminating information about the sites, and organizing rallies. The groups repeatedly sought to close L&RR. Although the efforts met with little immediate success, POW was instrumental in the passage of two state laws to ban hazardous and solid waste facilities from being located over aquifers.

In 1978, the North Smithfield Town Council formed a task force on hazardous waste that included members of POW and SENS. One of the goals of the task force was to build a case to convince the state legislature, the courts, RIDEM, and EPA to take some type of action at L&RR. In 1979, when the hazardous waste portion of the landfill was closed, the task force disbanded and POW and SENS became less active. At present, community members including members of POW remain very interested in area environmental issues and have expressed concerns about preventing risks to public health from exposure to hazardous waste, protecting the Slatersville Reservoir, and managing community growth and development.

III. SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND EPA RESPONSES TO COMMENTS

This Responsiveness Summary addresses the comments received by EPA on the Remedial Investigation (RI), Feasibility Study (FS), and Proposed Plan for the Landfill and Resource Recovery Site (L&RR Site) in North Smithfield, Rhode Island. During the public comment period, EPA received written comments from six parties and the Rhode Island Department of Environmental Management (RIDEM). There were two oral comments given at the public hearing held on August 10, 1988. Copies of the hearing transcript are available at the information repository located in the Municipal Annex Building in North Smithfield and at the EPA Records Center, 90 Canal Street, in Boston, Massachusetts.

In Part 1 of this section, comments received from the community are summarized and EPA responses are provided. Part 2 summarizes and provides EPA responses for comments received from RIDEM. Part 3 summarizes and provides EPA responses to comments submitted on behalf of Potentially Responsible Parties (PRPs).

PART 1. COMMUNITY COMMENTS

A. CONCERNS REGARDING THE RESPONSIBLE PARTY

Several commenters (area residents and members of Protect Our Water) raised specific concerns regarding the past and future activities of the landfill owner.

1. Comment:

Each of the four written comments EPA received from community members referred to a newspaper article stating that the landfill owner wants to burn the landfill gas and create electricity for sale. Members of Protect Our Water expressed specific concern that the gas treatment system would be operated for profit by the landfill owners, stating that the landfill owners have never evidenced concern for public health and welfare. The commenters stated further that any profit gained from selling electricity generated from the landfill should be returned to the government or used toward the closure of the Site.

EPA Response:

The selected remedy utilizes thermal destruction to treat the landfill gas. EPA will choose one of the following three thermal destruction technologies during the design phase: combustion, flaring or incineration. All three burn the gas to destroy the hazardous constituents but only one has the potential to produce electricity, combustion. This

technology may not be a profit making technology due to the operation and maintenance costs. Pilot tests will be conducted during the design phase to provide EPA with information necessary to identify which of the three technologies is protective and cost effective.

EPA will negotiate with all of the potentially responsible parties, including the site owners, to implement the remedy. If the responsible parties agree to implement the remedy, they must implement the remedy in accordance with the Comprehensive Environmental Response and Liability Act (CERCLA) which requires it to be protective of public health and the environment. EPA will monitor the design and construction of the remedy to insure that it is protective. Furthermore, the selected remedy includes an air monitoring program to insure that during operation, the selected remedy remains protective.

2. Comment:

Protect Our Water stated their concern with the landfill owners being the operators and maintainers of a gas collection system that is necessary to safeguard air quality and asked the following specific questions regarding the proposed gas treatment system:

1. Which of the three gas collection systems proposed in the EPA report is the system of choice for the situation as it exists at L&RR? We ask this noting that only combustion, of the three systems discussed, makes the gas available for sale and also noting that incineration is the most efficient in the destruction of contaminants.

2. Who will determine if the system is properly operating?

3. Who will maintain the system?

4. What will happen if the system becomes unprofitable?

5. Who will determine when and if the system should be discontinued?

EPA Response:

As stated in response to comment #2, EPA will select the specific gas treatment technology during the design phase, after pilot tests are conducted. A monitoring plan will be implemented to insure that the system is protective. EPA and RIDEM will review the monitoring data on a periodic basis to insure that the system remains protective. If the responsible parties agree to implement the remedy, they will be responsible for maintaining the system. The

selected remedy includes a post-closure plan which specifies routine inspections and maintenance requirements.

The system will be operated as long as necessary to reduce the risks from exposure to the landfill gas. EPA will decide when the system is no longer needed. EPA doubts that any of the systems will be profitable because of operation and maintenance costs. However, this issue will not influence EPA's decision on whether treatment is needed.

B. GROUNDWATER MONITORING

1. Comment:

Protect Our Water and a community resident expressed their concern with the great distances between monitoring wells in place at the Site. In particular, the group is concerned about protecting the Slatersville Aquifer, which provides one third of the town's water supply. The organization recommended that EPA install three additional monitoring wells in specific locations. They stated that the estimated $30,000 cost to install the three additional wells is relatively small in comparison with the $6 million EPA proposes to spend to implement the Proposed Plan.

EPA Response:

A number of factors must be considered when establishing a network of groundwater monitoring wells at a site. Presently there are 14 groundwater monitoring wells installed around the perimeter of the Site. Nine of these wells were installed by the present Site owner. After reviewing hydrologic and geologic information for the Site, EPA installed five additional monitoring wells during the RI/FS to gather information to characterize contamination at the Site. In response to this concern, EPA reviewed once again all the data collected to date and established a revised long-term groundwater monitoring plan which is outlined in the Record of Decision (ROD). This plan requires a new cluster of wells. This cluster will have two wells and will be located between monitoring well clusters CW-6 and CW-7. The specific location of this cluster will be decided during the design phase. Given the geologic conditions at the Site, this monitoring well network will identify a contaminant groundwater plume migrating from the Site.

C. MISCELLANEOUS

1. Comment:

One resident stated his belief that the contamination at the Site should be removed and neutralized, minimizing the threat of spreading contamination in the future.

EPA Response:

During the Feasibility Study, EPA developed an alternative that would permanently destroy the source of contamination at the Site. This alternative consisted of excavating the wastes and treating them in an incinerator. This alternative was not chosen as the selected remedy for the following reasons. First, significant public health and environmental risks would be posed by its implementation. Excavation of the wastes is likely to release volatile organic compounds (VOCs) and particulates such as asbestos into the atmosphere creating on-site and off-site risks from inhalation. Second, since the location of the hazardous wastes is unknown, EPA assumed that all of the wastes must be removed and treated. This would take approximately 90 years to implement. Third, incinerator capacity nation wide is insufficient for the quantity of wastes available. Finally, this alternative would cost nearly 2 billion dollars to implement.

2. Comment:

One citizen took exception to an EPA report that stated that the landfill accepted waste for disposal since 1927. The commenter stated that he is able to produce evidence disproving the date in question.

EPA Response:

It was stated in the RI/FS Report that wastes had reportedly been accepted for disposal at the Site since 1927. This information was based on discussions with past owners and other people with historical knowledge of the Site. EPA would welcome any information regarding historical waste disposal activities at the Site.

PART 2. RIDEM COMMENTS

A. TECHNICAL CONCERNS REGARDING EPA INVESTIGATIONS AND THE PROPOSED PLAN

Formal comments from the State of Rhode Island were submitted by the Department of Environmental Management (RIDEM).

1. Comment:

RIDEM has questions about the runoff and infiltration quantities projected from the modelling of the existing cover system at the landfill. The Department requests a more detailed explanation of the modelling procedures, capabilities, and results. RIDEM is interested in how the data influences EPA's selection of the remedy. In addition to the RIDEM comment, Wehran Engineering, the consultant for L&RR, Inc., also commented on the appropriateness of the methods used by EPA to predict the infiltration and runoff quantities. The response to this comment is presented in Part 3.A.2.

EPA Response:

Two methods were utilized to assess infiltration in the landfill and specifically the area without a synthetic cover, the Hydrogeologic Evaluation of Landfill Performance (HELP) model, Version I, and the Thornthwaite and Mather water balance model as republished by Fenn, Hanley and DeGeare, in 1977. Both models are designed to predict infiltration based on, among other things, rainfall and runoff characteristics and both are controlled by assumptions and input parameters. Its also important to note that both methods give approximations based upon impirical data and reasonable assumptions.

In response to Wehran's comments, EPA reviewed all of the methods utilized and the results obtained. It was interesting to note that Wehran Engineering calculated two different results using the same model. In 1983, Wehran performed a water balance for the uncovered area of the landfill using the method of Thornthwaite as modified by Fenn and calculated an infiltration of 19.3 inches/yr. Using this same method in their September 1988 comments on EPA's RI/FS, Wehran calculated a value of 6.8 inches/yr. These differences demonstrate the variation in infiltration that can result when different assumptions are used with the method. Using the HELP Model, EC Jordan, EPA's consultant, calculated infiltration as 27.64 inches/yr. In response to Wehran's comment, EC Jordan recalculated infiltration using the Thornthwaite method as modified by Fenn with similar assumptions as those utilized in the HELP model

calculations. In this instance, Jordan's calculations resulted in an infiltration of 16 inches/yr (See Memo from EBASCO dated September 26, 1988 in the Administrative Record).

EPA agrees with the Wehran comment that the HELP model is limited in its ability to accurately represent slopes greater than 10%. The HELP model represents a conservative approach which has been utilized at many sites with slopes steeper than 10%. EPA further agrees that the Thornthwaite method, as modified by Fenn, is a more appropriate method for representing the infiltration at the L&RR Site. However, the Thornthwaite method, as modified by Fenn, results in a range of values for infiltration between 6.8 in/yr and 19.3 in/yr. As Wehran points out in their comment, the results are strongly influenced by the assumptions and in particular the assumed runoff coefficient. Without site-specific information and information concerning the input assumptions made by Wehran, EPA cannot evaluate which of the approximations calculated is a closer representation of the actual field conditions at the L&RR Site.

Based on a review of EC Jordan's assumptions and results, EPA believes that the actual infiltration in the uncovered area could realistically be in the range between 6.8 in/yr and 19.3 in/yr which represents 185,000 gallons/acre/yr and 524,000 gallons/acre/yr, respectively. The maximum infiltration calculated for the rest of the landfill, which has a synthetic cover as part of the cover system, was estimated to be 7,690 gal/acre/yr. Given the long-term uncertainties associated with land disposal and the lack of information regarding the location of the wastes, the amount and types of hazardous wastes disposed and the hydrologic flow in the landfill, EPA finds this range of infiltration in the uncovered area unacceptable. In order to meet the objective of the objectives of CERCLA, to protect human health and the environment and to meet applicable relevant and appropriate requirements (ARARs), the synthetic impermeable membrane is necessary on the uncovered area of the landfill.

2. Comment

RIDEM requests that EPA consider alternative groundwater monitoring programs that would provide adequate monitoring but include flexibility in the frequency and/or parameters chosen, dependent on the trends in analytical data collected.

EPA Response:

EPA established a groundwater monitoring program in the ROD that was different from the ones discussed in the RI/FS

Report. The monitoring plan is outlined below and may be revised based on trends in analytical data.

Wells:			
	MW-101	CW-5 A,B,C	(15 wells)
	MW-102 A,B	CW-6 A,B,C	
	MW-103 A,B	CW-7 A,C*	
	MW-104 A,B**		

* EPA does not think that CW-7B is needed.
** MW-104 is a new well cluster located between CW-6 and CW-7.

Parameters:

Quarterly:	VOCs	Indicators	Metals
		Chloride	Arsenic
		pH	Iron
		Temperature	Lead
		Specific Conduct.	Manganese
			Cadmium

Annually: Barium, chromium, fluoride, mercury, nitrate, selenium and silver (from the 1983 Court Order)

3. Comment:

RIDEM requests a more detailed cost analysis breakdown of the associated operation and maintenance costs that are anticipated.

EPA Response:

A detailed cost breakdown for each alternative is found in Appendix BB in the RI/FS Report. Its important to note that the cost analysis in the FS is primarily conducted to provide EPA with an estimated comparative cost for each alternative. These estimates are made with a number of assumptions and the actual costs may vary between -30 and +50 percent. The detailed cost information is developed during the design phase.

Its also important to note that as discussed in response to comment #2, the groundwater monitoring plan established in the ROD is different than the one outlined in the FS. EPA estimates the costs for this plan will be as follows:

VOCs	$225/smpl x 15 smpl/qtr x 4 qtr/yr	= $13,500/yr
Metals	$80/smpl x 15 x 4	= $4,800/yr
Indicators	$40/smpl x 15 x 4	= $2,400/yr
C.O. Metals	$160/smpl x 15 x 1	= $2,400/yr
Total Analytical Costs:		= $23,100/yr
2 people x 3 days x 8 hrs x $20/hr x 4 qtr/yr		= $3,840/yr
Total Sampling Costs:		= $26,940/yr

4. Comment:

RIDEM has questions about the results of the air monitoring at the landfill and the risk assessment developed based on this data. RIDEM believes that more accurate analytical results are needed in order to develop an appropriate risk analysis.

EPA Response:

EPA believes that the results are appropriate and sufficient for the purpose of selecting a remedy for the Site. The difficulties encountered at the Site such as the high moisture content and high pollutant concentrations of the gas made the use of conventional sampling techniques such as sorbent traps tenuous. The results were based on techniques designed specifically for L&RR after standard sampling methodology failed.

EPA's conservative position is that although there may be questions regarding the validity of the quantitative data, qualitatively, the risk assessment justifies the necessity for gas treatment.

5. Comment:

RIDEM stated that the Department and the owners of L&RR entered into a Consent Agreement in July 1983 (the 1983 Court Order) which addressed closure measures for the landfill. Many of the components of EPA's Proposed Plan are similar to the requirements outlined in the existing Consent Order and Agreement. The restoration of wetlands and the addition of a synthetic cover on the northeast portion of the landfill have not been included as part of the closure plans submitted to date. The Department agrees that compliance with all applicable wetlands requirements must be addressed, in addition to all of the other closure measures required under the 1983 Court Order. The Department also agrees that installing the additional cover on the northeast side slopes would further reduce infiltration of liquids into the landfill; however, given the concerns identified in the Department's first comment (A-1, above), the Department requests that EPA provide further justification for the

proposed cap.

EPA's Response:

There are a number of reasons why EPA is proposing to upgrade the present landfill closure and, more specifically, install a synthetic cover and stabilize the slopes on the northeast portion of the Site. EPA's primary reasons for installing the synthetic cover is to protect public health and the environment and attain ARARs. The installation of the synthetic cover will protect the groundwater and insure compliance with the provisions of the RCRA Subtitle C regualtions (40 CFR 264).

EPA considered the following facts when selecting the remedy for the Site. First, the landfill is situated over the Slatersville Aquifer which is designated as a potential future drinking water source. Second, EPA has no definitive information regarding the location, amount and types of hazardous wastes within the landfill. Third, EPA also has no information regarding the hydrologic flow patterns within the landfill. There is a potential that the flow could be channelized to areas containing the hazardous wastes. Fourth, although presently there is no indication of an organic contaminant plume migrating from the Site, there is a potential that one could emerge in the future due to transport mechanisms, such as gravity, that occur regardless of the amount of infiltration. In light of the fact that we know hazardous wastes were disposed of in the Site, there are three possible explanations for the groundwater monitoring results seen to date. First, the hazardous contaminants have not yet entered the groundwater. Second, the groundwater containing the hazardous contaminants has not yet reached the boundary of the Site. Third, the existing landfill conditions, such as the natural hydrologic and geologic conditions within the landfill, the quantity of wastes disposed and the existing cover, could be preventing the generation or detection of a groundwater plume at this time. If the first two explanations are correct, we can expect to see an organic contaminant plume in the future. In light of all of these knowns and unknowns, EPA believes that it is necessary to protect the groundwater and to minimize infiltration to be protective of public health and the environment.

The statutory requirements established in CERCLA mandate that EPA select a remedy that meets ARARs. In order to comply with the RCRA Subtitle C regulations (40 CFR 264), the landfill cover must minimize infiltration as discussed in response to comment 1. A synthetic cover over the entire landfill will minimize infiltration.

B. ALTERNATIVE PREFERENCE

1. Comment:

RIDEM recommends that EPA consider the implementation of the closure measures outlined in the 1983 Court Order, in addition to wetland restoration, as an effective and appropriate remedy for the L&RR Site.

EPA Response:

The existing closure conducted to date under the 1983 Court Order between RIDEM and L&RR, Inc., was evaluated during the RI/FS. The existing closure conducted to date does not meet the requirements of CERCLA. More specifically, the existing cover does not protect the groundwater. In addition, the existing surface water drainage system and vegetation establishment does not minimize erosion. Erosion from the landfill has severely impacted and continues to deposit soil in the wetlands. Before the wetlands are remediated, the landfill erosion must be minimized; otherwise, continuous wetland remediation will be needed. The 1983 Court Order requires a methane recovery system. This system has yet to be designed or constructed. This system must be designed and constructed in accordance with EPA's Record of Decision (ROD) to meet the requirements of CERCLA. EPA reviewed the existing groundwater monitoring plan. In light of the hydrologic and geologic data collected to date and the fact that there is a potential for a groundwater plume to emerge in the future, a more aggressive groundwater monitoring plan is needed to meet the requirements of CERCLA. Finally, the post-closure monitoring plan must take into consideration EPA's selected remedy and the requirements in EPA's ROD to meet the requirements of CERCLA.

PART 3. POTENTIALLY RESPONSIBLE PARTIES COMMENTS

A. TECHNICAL CONCERNS

Wehran Engineers, Inc. submitted extensive comments on behalf of the owner of L&RR, Inc. These comments and EPA responses to these comments are summarized, by subject area, below.

1. Landfill Gas Emissions and Risk Assessment

a. Comment:

Wehran questions the validity of utilizing so-called "future conditions" (uncovered vents) as the basis for the air exposure and risk assessment. Wehran theorizes that the landfill gases would never be uncontrollably released into the environment because the 1983 Court Order requires a methane recovery system. Therefore, the "future conditions" do not represent any anticipated actual future conditions. The air risk assessment should be based upon current conditions using fugitive emissions data for landfill gases which may be emanating from the Site.

EPA Response:

The risk assessment was based upon emissions from 5 sampled air vents, of the 18 total vents found at the landfill. The best approach to estimate fugitive emissions was thought to be use of actual emissions from some portion of the total vents, rather than introducing additional uncertainties by modeling estimated fugitive emissions. The five vents sampled, which are less than 1/3 of total vents, was considered to present an acceptable estimate of future fugitive emissions due to fissures in the uncovered portion of the landfill.

Although the 1983 Court Order requires a methane recovery and removal system, one has yet to be constructed at the Site. As concluded in the RI/FS, a large volume of gas (775 cubic feet per minute (CFM)) is being generated within the landfill. To protect the integrity of the synthetic cover, the gases generated in the landfill must eventually be released. While it may be true that the vent gases may never be uncontrollably released into the environment, the landfill gases needed to be characterized not only for the purposes of risk assessment but also for design and construction. Ultimately, when the treatment system is designed and constructed, it must protect human health and the environment. Information regarding the degree of hazard associated with the untreated gas is necessary to design a system that is protective. The RI/FS Report and EPA's Proposed Plan clearly states that the vents are currently

closed. With the information obtained during the RI/FS, EPA has concluded that these vents should remain closed until a treatment system is constructed.

b. Comment:

The vent velocity measurement technique does not utilize standard methodology or account for any variation across the diameter of the pipe. The vane anemometer method does not provide an accurate flow measurement as per EPA Method 2 and could contain large errors. A more accurate velocity measurement could have been obtained by attaching a larger diameter duct to the vent pipe with access ports to permit traverses and the utilization of a pilot tube and micro manometer system. In addition, the vane anemometer utilized is easily affected by ambient wind conditions and may include a bias. No ambient wind data during sampling is provided in the report. Ultimately, this error results in a reduced risk characterization.

EPA Response:

The vane anemometer employed a shield around the blades to minimize ambient wind influences. The data gathered with the anemometer were used to assess the character of the vent emissions and were not intended to provide a detailed analysis of such emissions. The alternative method recommended by Wehran (EPA Method 2) would have proven highly inaccurate without hydrogen, oxygen and moisture preanalyses of each vent to determine gas density.

c. Comment:

On page 7-12 of the RI/FS Report, reference is made to the six inch pipe diameter stamped on the sides of the vent pipe. Is this ID or OD, and why wasn't an accurate measure taken to confirm the pipe size?

EPA Response:

The pipe size was 6 inches, inner diameter. The stamping was discovered after the initial measurement and only served to confirm the measurement.

d. Comment:

The calculated percent changes in temperature between uncapped and vented scenarios presented in Table 7-3 of the RI/FS Report are incorrect; for example, the reported Vent 2 result is +46.3%. Referring back to Table 7-2, the following calculation results in (1.8 - 7.5)/ 7.5 = -76%. Many of the other reported values are incorrect as well.

EPA Response:

The calculated percent change in temperatures presented in Table 7-3 were calculated using temperature in degrees celsius. For example, in vent 10, a +100% change in temperature was noted for a corresponding temperature increase of 68°F to 104°F. This percent change was actually calculated using celsius values of 20°C and 40°C.

e. Comment:

A footnote on Table 7-6 of the RI/FS Report indicates that vent pipe velocity and temperature measurements were not collected during the VOC sampling events. With the noted variability of the vent flow rates, this is a significant loss of data. No comparison of physical characteristics of the vent emissions can be made between the sampling events and the flow measurement events. With this missing data, actual emission rates at the time of sampling could also have been determined.

EPA Response:

The footnote referenced in the comment was incorrectly written. The footnote should have indicated that velocity data was not available for the 48 hour period of venting. Section 7.4.5 of the RI/FS Report references this loss of data. Exhaust parameter data was available for the remaining VOC sampling events.

f. Comment:

Review of Table 7-7 in the RI/FS Report indicates that the duplicate sample of vent 18 did not replicate the identification of three compounds: 1,1,1 - trichloroethane, trichloroethene, and bromoform. The discussion contained in the RI/FS Report does not accurately represent that 3 of the 11 compounds were not replicated. Potential mis-identification or field sampling error is indicated by these results. Furthermore, if detection limit values are utilized for these non detected results, high relative percent differences are indicated. This error results in reduced risk characterization.

EPA Response:

It is noted that the duplicate samples from vent 18 did not replicate the results for the three compounds noted and field sampling error could have effected these results. However, 1,1,1-trichloroethane was detected in 18 of 21 samples, trichloroethene was detected in 20 of 21 samples and bromoform was detected in 13 of the 21 samples. All of the compounds were detected at significant levels. Of the three compounds, only trichloroethene contributed to the

risk. Therefore, this fact is not expected to have influenced the risk.

g. - Comment:

On page 7-33 of the RI/FS Report, the worst case scenario for the odor impact is based on the exit parameters from the immediately uncapped scenario. However, no data exists to determine a realistic estimate of the potential duration of this scenario. Velocity or temperature data is presented for the following periods of venting: 0, 12, 24, and 48 hours. On page 7-36, a statement is made that velocity did not stabilize until the 12th hour of venting. Stabilization could have occurred at some time period less than 12 hours. If the vent flows had been more fully investigated, it would have been possible to determine when flows stabilized and subsequently to assess more realistically the duration of this scenario.

EPA Response:

It is agreed that stabilization could have occurred before 12 hours of venting and the report should have indicated this. Since it was not known when stabilization would occur, the intervals of 0, 12, 24 and 48 hours were selected to investigation a range of possibilities. To be conservative and account for the uncertainties of computer modeling and risk assessment, the worst case scenario was based on the results from the immediate uncapped scenario. It is also important to note that the vents are presently closed due to down wind odor problems.

h. Comment:

As discussed on page 7-43 of the RI/FS Report, Wehran questioned the potential impact on the modeling results of the terrain reductions in the receptor elevation input.

EPA Response:

Of the 53 terrain points reduced, 36 were associated with the 100 meter on-site ring with maximum reductions of 13 feet. This ring was only of concern for on-site exposure. The reductions made for off-site receptors numbered 17 and occurred from 600 meters and beyond. The low plume exit characteristics resulted in the worst-case impacts within 600 meters. Furthermore, the 17 off-site receptors with reduced terrain were located east-southeast and south-southwest of the Site, areas that were away from the maximum impact locations. The terrain reductions had little impacts on predicted concentrations.

i. Comment:

The VOC averaging scheme discussed on page 7-43 of the RI/FS Report introduces a significant increase in the average VOC concentrations utilized for many of the seventeen compounds. The results reported as non detected (ND) were discarded from the averaging as if the only valid results are those reported above detection limits. For those values reported as ND, the method detection limit value could be utilized for calculating the average. This bias impacts the air dispersion modeling results as well as the risk characterization results, through the over estimation of VOC concentrations in vent pipe emissions.

EPA Response:

Owing to the inherent limitations of any scientific study, any bias towards conservatism is desirable, especially in regards to a public health assessment.

j. Comment:

The description of exposure scenarios for inhalation of vent pipe emissions are all based on the uncontrolled venting of the five worst case vents. The qualification addressing "should more vents be uncovered and have emissions similar to these tested" presents a hypothetical situation not likely to occur considering the Site conditions and history. First of all, the Report describes the five worst case vents as orders of magnitude greater (peak areas) than the remaining vents on page 7-25. Therefore, similar emissions are not likely from other vents. Second, there are no current or future plans which incorporate uncontrolled venting of the landfill gases. Although it is used as a worst case scenario for modeling and risk characterization, the discussion of risk should include a statement that the vents are not now or in the future proposed to be allowed to vent to the atmosphere.

EPA Response:

The first point made by Wehran "similar emissions are not likely from other vents" cannot be substantiated. Currently, the emissions from 13 of the 18 vents are less significant than the emissions from the 5 worst case vents. This point does not mean that the emissions from the 13 vents may not pose a health hazard. The sample technique utilized was specifically developed to assess high concentrations. Other techniques could be utilized to detect contaminants in the other 13 vents. Furthermore, while the 13 vents have lower emissions at the present time, there is nothing to indicate that the landfill will continue to emit at its present rate.

As stated in response to comment 1.a. in this section, the RI/FS Report and EPA's Proposed Plan clearly indicates that the vents are presently closed. Given the potential risk to public health from the vent emissions, EPA will insist that they remain closed until a gas treatment system is constructed that meets the objectives of EPA's Record of Decision (ROD).

k. Comment:

The calculation of adult cancer risk is based on exposure over a 70 year lifetime. The landfill gas generation rates and concentrations will not only vary greatly, but the generation lifetime for the landfill is much less that the 70 year exposure period. At a minimum, the flows will be greatly reduced over time. The risk calculation does not account for the major reduction in landfill gas emissions, which will naturally occur over the lifetime of the landfill.

EPA Response:

While it is agreed that gas emissions will decrease over the life span of a landfill, there is no information to indicate with any degree of certainty what reductions will occur over what time period. Therefore, emissions were assumed to continue over a full human lifetime. It should be noted however, that for the most probable case, it was assumed that exposure would only occur 75% of the time.

l. Comment:

The risk assessment states that there are no residences at the off-site point of maximum impact. If not, why was this location used in the risk assessment? Is this an expected future condition? If so, this should be stated in the risk assessment.

EPA Response:

Risks were calculated assuming exposure at the off-site point of maximum impact to present a worst case scenario. In addition, risks were calculated assuming exposure at 3 residential locations to present a most probable case.

m. Comment:

The predicted concentrations at the on-site maximum impact point remain constant for at least the period of exposure (9 years). There is no basis for this assumption provided in the RI/FS Report. It is probable that if the landfill vents were opened, emissions could decrease with time.

EPA Response:

As stated previously, there are no quantitative data on the decrease in gas generation rates or concentrations over the life span of a landfill. Therefore, it was assumed that fugitive emissions would remain constant. It should be noted that the concentrations at the on-site maximum impact point is an annual average value and that although higher concentrations would occur due to metrological conditions, the annual average is the most realistic value.

n. Comment:

The realistic worst case analysis is based on the assumption that children will visit the on-site maximum impact point twice a month for nine years and remain at that location for four hours each time. There is no evidence to support any of these assumptions. Furthermore, if a fence with barbed wire is installed around the Site, there is no probability of this circumstance happening at any time in the future.

EPA Response:

There is physical evidence that the Site has been accessed by individuals. This includes dirt bike tracks and trash. The ventilation rate is consistent with a moderate activity level, which is considered appropriate for children at play. These assumptions apply to the Site as it exists now, which are considered baseline conditions that would not require long-term management and oversight, including site security such as a fence.

o. Comment:

Source terms for air quality modeling are suspect and yet greatly impact the health risk assessment. Specifically, selection of source emission properties based on measurements taken before the source has reached equilibrium may not provide an accurate estimate. Second, failure of the velometer prevents proposing the assumption that the emissions have stabilized. Finally, vent velocities may not be accurately assessed without barometric pressures measurements.

EPA Response:

Vent gas exit velocities averaged 2.5 miles per hour after 12 hours of venting and continued at this rate at 24 hour point. The value represented a drop from the immediately uncapped value of 5.1 mph. Since the drop continued after 12 hours, flow equilibrium was reached within the period of sampling.

Although it has been suggested that atmospheric (barometric) pressure affects landfill gas emissions, it is not expected to be significant in this case. For a landfill the size of L&RR, the primary source of emissions is the methane generated, which is a function of material decay and decomposition. Atmospheric pressure will not direct the rate of decay nor will atmospheric pressure significantly alter an emission volume of 775 cubic feet per minute.

It is doubtful that the source terms will remain constant for 70 years, nor was it ever stated in the RI/FS Report. The uncertainty associated with this change is the reason why worst case assumptions were used in completing the risk assessment.

p. Comment:

There is no validation of the quantitative emissions concentrations derived from field GC studies. A large part of the risk assessment from the air exposure is due to two compounds: 1,2, dichloroethane and carbon tetrachloride. GC/MS samples failed to confirm the presence of these compounds.

EPA Response:

Observed differences between the field GC sampling results and the laboratory analyzed tenax and charcoal tubes may be due to a variety of factors. Quantification of the charcoal and tenax tubes was hampered by breakthrough and probable loss of certain hazardous substance list (HSL) compounds of concern due to displacement from the tubes by high concentrations of other HSL and/or non-HSL organics. Initial CLP laboratory analyses confirmed the existence of high organic loadings on certain tubes. In addition, during sorbent tube sample collection, water vapor condensation was a recurring problem. The presence of water can adversely affect sorbent tube performance. The field gas analyzed samples were collected in gas bulbs which were not subject to breakthrough or desorption losses as are sorbent tubes.

Sample analyses using the field GC based all comparisons of peaks to volatile standards containing the targeted compounds, with a standard analyzed at the start of the day and every eight hours until the analysis day was complete. Retention times (RTS) were matched based upon the observed drift of the RTS in the samples and by generating relative retention times (RRTS) to a late eluting compound (toluene). Therefore, the identifications are considered valid.

As discussed in the RI, the sorbent tube data confirm the field GC results indicating the presence of a wide variety of chlorinated and non-chlorinated organic compounds in the vent emissions. Both the charcoal and tenax tube data for

samples from several vent locations indicate the presence of many HSL organics in both the front and back tube portions indicating the occurrence of breakthrough.

With respect to field GC data, it should be noted that carbon tetrachloride was detected in four different samples from each of five different vent locations and 1,2-dichloroethane was detected in multiple samples from two different vent locations.

From the health perspective, the realistic worst case estimate of health risks (1.1×10^{-3}) to children due to the inhalation of air contamination from vents exceeded the EPA target range for risk of 1×10^{-4} by approximately an order of magnitude. This total risk was due to significant contributions from several air contaminants including chloroform and tetrachloroethene/ 1,1,2,2-tetrachloroethane, in addition to 1,2-dichlroethane and carbon tetrachloride. The calculated risk due to any one of the constituents considered individually approached or exceeded the EPA target level of 1×10^{-4}.

In addition, for this scenario the total calculated risks from several other structurally similar chlorinated organics (methylene chloride, 1,1-dichloroethene, and trichloroethene) and benzene , all of which were detected, were within a factor of three of the 10^{-4} upper bound target risk.

In summary, the air sampling results indicate the presence of a wide variety of organic constituents in the vent emissions.

q. Comment:

The screening of gas treatment technologies in the FS was not conducted correctly. To determine the reduction in health risks achieved by each gas treatment technology, the ambient concentrations produced by the five vent sources was reduced by the destruction and removal efficiencies of each technology. After treatment, there will be one source, the stack. Ambient concentrations from one source will be significantly less.

EPA Response:

It was acknowledged in the RI/FS Report that the selected technology will change source emission parameters. However, the intent of the investigation was to characterize the source contaminant term and the exhaust parameters. Although the exhaust parameters will change, the overall contaminant feed rate and quantity will not differ because of the selected technology. Knowledge of these terms will allow a proper control technique to be sized and implemented.

r. Comment:

Some design efficiencies and cost estimates have not been adequately assessed, particularly in regards to the gas treatment technologies.

EPA Response:

The cost analysis in the FS is primarily conducted to provide EPA with an estimated comparative cost for each alternative. These estimates are made with a number of assumptions and the actual costs may vary between -30 and +50 percent. The detailed cost information is developed during the design phase.

2. Landfill Performance Model

a. Comment:

The amount of leachate generated from the uncapped area of the Site was determined by use of the HELP model. The results of this hydrologic modeling are presented in Table 9-1 and 9-2 of the RI/FS Report. Based on a leachate generation rate of 59% of the total incident precipitation in uncapped areas, as compared with 0.7% for capped areas, capping of this area was determined by the RI/FS as beneficial. However, upon inspection of Tables 9-1 and 9-2, it is apparent that the modeling results are significantly in error. Wehran Engineering has calculated the water balance for the L&RR landfill using a method developed by C.W. Thornthwaite, as applied to solid waste disposal sites by D.G. Fenn, et.al. The results of the water balance for the uncapped landfill areas show a percolation rate of 6.8 inches per year. This rate is 15% of the average annual 46.2 inches of incident precipitation, rather than the 59% as calculated by the HELP model. Therefore, the RI/FS assumption is approximately 400% off.

EPA Response:

Both of the methods utilized, the HELP model and the Thornthwaite method as modified by Fenn, use analytical methods to evaluate infiltration. However, both are controlled by assumptions and input parameters and both result in approximations. Wehran did not submit their input assumptions with their comment or at the request of EPA. Therefore, EPA could not evaluate the validity of Wehran's results. In response to this comment, EC Jordan utilized the Thornthwaite water balance method as modified by Fenn with a set of input assumptions which were similar to the ones utilized for the HELP model and acceptable to EPA. This approach resulted in an infiltration of 16 inches/yr (See Memo in Administrative Record from EBASCO dated September 26, 1988).

In 1983, Wehran performed a water balance for the uncovered area of the landfill using the method of Thornthwaite as modified by Fenn and calculated an infiltration of 19.3 in/yr. Using this same method in their comments on EPA's RI/FS, Wehran calculated 6.8 in/yr. These results demonstrate the variation that can occurr in approximating infiltration with different input parameters and assumptions.

Using the HELP Model in the RI/FS, EC Jordan calculated infiltration as 27.64 in/yr. The HELP model represents the most conservative approach to calculating infiltration, particularly on the uncovered area.

Based on a review of EC Jordan's assumptions and results, EPA finds that the infiltration could realistically be in the range between 6.8 in/yr and 19.3 in/yr or rather 185,000 gallons/acre/yr and 524,000 gallons/acre/yr, respectively. The maximum infiltration calculated for the rest of the landfill, which has a synthetic cover as part of the cover system, was estimated to be 7,690 gal/acre/yr. Given the uncertainties associated with landfilling of wastes and the lack of information regarding the location of the wastes, the type and amount of wastes disposed and the hydrologic flow in the landfill, EPA finds this range of infiltration in the uncovered area unacceptable. To meet the objectives of CERCLA, to protect human health and the environment and meet ARARs, a synthetic cover is needed in this uncovered area.

b. Comment:

The specific version of the HELP model used was not documented. However, in all versions Wehran has reviewed, the model is not meant for landfill slopes greater than 10% In the RI/FS Report, the model was used on slopes of 33% and 50%. One effect of using these slope factors in the model is an inability to accurately predict average runoff conditions. It is widely recognized in hydrologic calculations that when the slope of the land is steepened, the fraction of rainfall which becomes runoff increases. In Table 9-2, for existing conditions, the percentage of runoff at a 3% slope was calculated by the model at 21.37% of the total annual precipitation. At a 33% slope, rather than the runoff fraction increasing, the fraction decreased to 0.62% of the total annual precipitation. The soil structure data was identical for both slopes, as shown in Table 9-1. When no cap barrier was included in the model design at 50% slopes, the rainfall fraction, which was previously removed from the model system by the barrier drainage layer at 33%, was now percolated vertically into the landfill. In fact, a substantial amount of this percolation (and the barrier layer drainage at 33%) should have been calculated as runoff.

EPA Response:

EPA agrees that the HELP model is limited in its ability to accurately represent slopes greater than 10% and it was utilized as a conservative approach to the Site. The Thornthwaite method as modified by Fenn is probably a more appropriate method for representing the infiltration at the L&RR Site. However, the Thornthwaite method as modified by Fenn is also strongly influenced by the assumed runoff coefficient. Therefore, the estimates can be very subjective since the user projects their "best" estimate as to what the percent precipitation is actually running off. EPA finds that the infiltration in the uncovered area could realistically be in the range between 6.8 and 19.3 in/yr. Given the uncertainties associated with the Site as discussed above, EPA finds this range of infiltration unacceptable. EPA believes that in order to meet the objectives of CERCLA, to protect human health and the environment and meet ARARs, a synthetic cover is needed in this uncovered area.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

a. Comment:

Given the fact that the HELP model results contained an error regarding infiltration calculations and that runoff rates in the non-capped area were not adequately considered, the conclusion that the final cover does not achieve applicable or relevant and appropriate requirements (ARARs) is not adequately justified within the RI/FS Report.

EPA Response:

As discussed in previous responses, EPA believes that the infiltration in the uncovered area most probably falls between the range of 6.8 in/yr to 19.3 in/yr. However, without site-specific tests, the infiltration could not be exactly determined. In light of the uncertainties associated with landfilling wastes and the lack of information regarding the location of the hazardous wastes, the types and quantities of wastes, and the hydrologic flow in the landfill, EPA finds this range of infiltration unacceptable for meeting the ARARs and in particular the requirements of RCRA Subtitle C regulations which require the landfill cover to minimize infiltration and migration of liquids through the landfill.

b. Comment:

On page 2-7, the FS Report states that "although not directly applicable" and "generally RCRA regulations have jurisdiction at hazardous waste facilities that accepted

RCRA-listed wastes after November 19, 1980; L&RR ceased accepting hazardous waste in September 1979". However, EPA proceeded to evaluate these RCRA regulations as if they were relevant and appropriate requirements and then recommended implementation of remedial alternatives on the basis of these regulations that are "not directly applicable". The basis for landfill ARARs at this Site should be the 1983 Court Order executed between L&RR and RIDEM.

EPA Response:

Section 121 of CERCLA requires EPA's selected remedy to attain applicable or relevant and appropriate requirements. For the L&RR Site, RCRA Subtitle C is not applicable because the Site accepted hazardous waste prior to November 19, 1980. However, the RCRA Subtitle C regulations are relevant and appropriate because the Site contains wastes that are similar or identical to RCRA hazardous wastes and hazardous constituents and the CERCLA action involves long-term landfilling disposal. Furthermore, these regulations address problems or situations sufficiently similar to those encountered at the L&RR Site and their use is well suited to the Site. Relevant and appropriate requirements must be complied with to the same degree as if it were applicable. Under the terms of Section 121, the 1983 Court Order is not a requirement of general applicability which would govern a CERCLA remedy.

c. Comment:

Wehran asked whether current air concentrations meet the ARARs. Wehran stated that the Air Toxic regulations are not clearly presented. Wehran asked whether these are emission standards as referred to in Table 11-9 or ambient levels as referred to on page 11-17. In either case, why aren't they provided in Table 11-16, and how do the current landfill conditions compare to them? There is some indication of a standard/guideline on Table 11-2, but it appears this refers to the Risk Reference Dose (RfD).

EPA Response:

The Rhode Island Air Pollution Control Regulation No. 22, "Air Toxics" present acceptable ambient levels. However, minimum quantities of emissions, above which a generator must report, are also stated. The Air Toxics regulations are presented and discussed in Appendix Y of the RI/FS Report. In addition, a discussion is presented in a Technical Memorandum from EC Jordan dated July 15, 1988 and included in the Administrative Record. The existing landfill vent emissions do not presently meet these regulations. Since fugitive emissions were not quantitatively characterized, it could not be determined if the fugitive emissions meet these regulations.

4. EPA's Proposed Plan

a. Comment:

Steep side slopes, up to 50%, can be readily stabilized with proper drainage controls and suitable vegetative cover. Should a particular area show to be more susceptible to erosion, the topsoil can be strengthened with a synthetic mesh material. The key to proper vegetation establishment is prompt re-dressing of any areas showing signs of erosion and continual maintenance until a sturdy rootmat has been established. Wehran feels that such an approach would alleviate the need for any flattening of the existing slope.

EPA Response:

Based on observations made during the RI, the existing vegetative cover is considered to be in "poor" condition on the steep side slope areas. The existing root mat is thin and plant density is low. Sandy, well-drained soils such as those of the existing topsoil typically have difficulty in establishing the good to excellent vegetative cover necessary to stabilize those types of soils on steep grades. Excessive soil loss, which has historically been a problem at the Site, can be temporarily lessened with synthetic mesh materials, however, long-term minimization of soil erosion without continued maintenance depends on vegetative establishment which the existing soil on the steep side slopes has not supported.

Flattening the steep slopes would reduce the potential for excessive soil erosion and provide an opportunity for the establishment of a higher quality vegetative cover.

b. Comment:

The conclusions of the RI/FS indicate that "an organic plume is not migrating from the Site" and that "the L&RR Site is not presently impacting the local private wells". This, along with the incorrect results from the HELP model, do not justify the need for capping the existing uncapped side slopes on the northeastern side of the landfill. Wehran believe that these areas should be revegetated after the methane gas extraction system comes on-line. In the interim, the side slopes should be reseeded where needed to prevent erosion.

EPA Response:

As discussed in detail in response to comment A.5. in Part 2, there are a number of reasons for upgrading the present landfill closure and more specifically installing a synthetic cover on the northeast portion of the landfill. Although the groundwater monitoring results indicate that a

plume of hazardous contaminants is not presently migrating from the Site, historical information indicates that a plume could emerge in the future. Furthermore, EPA must select a remedy that protects groundwater. The infiltration in the uncovered area has been estimated to be 27.64 inches per year, as calculated in the RI/FS Report using the HELP model, 19.3 inches/yr, as calculated by Wehran in their 1983 closure plans using the Thornthwaite method as modified by Fenn, 16 inches/yr, as calcualted by EC Jordan using the same method, and 6.8 inches/yr, as calculated once again using this method by Wehran in their 1988 comments. EPA believes that the actual infiltration realistically falls within the range between 6.8 in/yr and 19.3 in/yr. The covered portion of the landfill reduces infiltration to approximately 0.3 inches/yr. It is clear that a synthetic cap on the uncovered portion of the landfill will minimize infiltration and the migration of liquids through the landfill to the lowest practical extent and protect groundwater.

c. Comment:

The first component of EPA's Proposed Plan is upgrading the existing landfill closure to conform with either Alternative 3 or Alternative 4 of the RI/FS Report. Wehran's position is that the final cover plan proposed in the Court Order and Consent Order and Agreement, dated July 13, 1983 (the 1983 Court Order), is appropriate and adequate for the L&RR Site.

EPA Response:

The closure plans established by Wehran for the 1983 Court Order are not appropriate or adequate because they do not meet the requirements of CERCLA. In order to meet the requirements of CERCLA, the landfill closure must protect human health and the environment.

It is evident from observing the impacts to the wetlands that the existing closure is not protecting the environment. The existing surface water runoff management system, slopes and vegetation are not minimizing erosion and the eroded soil is filling in the wetlands. The selected remedy will upgrade the existing surface water management system, stabilize the slopes and establish vegetation to minimize erosion. Furthermore, the impacted wetlands will be remediated and re-vegetated.

By not minimizing infiltration, the existing closure is not protecting the groundwater. Considering the lack of definitive information regarding the location, types and amounts of hazardous wastes and the hydrologic flow within the landfill, the synthetic cover in the northeast area is necessary to protect the groundwater aquifer which is designated as a potential future drinking water source.

d. Comment:

The second component of EPA's Proposed Plan is installing a gas collection and thermal destruction system. The gas management program established by the 1983 Court Order will provide the required benefits of controlling landfill gas emissions.

EPA Response:

EPA has proposed three technical approaches that will reduce gaseous emissions to levels that will eliminate the estimated risk and be protective of public health. As stated in the Proposed Plan, the effectiveness of the gas treatment technologies proposed will have to be determined by pilot testing programs of individual systems during the design phase. The effectiveness of individual systems will be judged by actual data generated during the pilot programs. A methane recovery and removal system required by the 1983 Court Order will have to demonstrate, prior to construction, the capability to reduce emissions to levels that are protective of public health and the environment.

e. Comment:

The third component of EPA's Proposed Plan requires regular monitoring of the groundwater, surface water, and air. Wehran Engineering supports a monitoring program as included per the 1983 Court Order.

EPA Response:

The 1983 Court Order contains plans for monitoring the groundwater and surface water. After consideration of the comments made on the Proposed Plan, EPA established a groundwater monitoring plan in the Record of Decision (ROD) which is different than the ones discussed in the RI/FS Report. In establishing the monitoring plan, EPA considered the monitoring plan presented by Wehran as well as all of the hydrologic and geologic data collected to date. The groundwater monitoring plan established in the ROD is necessary to meet the requirements of CERCLA. This plan takes into consideration the fact that EPA is not selecting a permanent remedy, the uncertainties associated with landfilling of wastes and the fact that the landfill is situated over the Slatersville Reservoir which is a future potential drinking water source. It is also important to note that the 1983 Court Order does not contain plans for air monitoring. This monitoring is also needed to meet the requirements of CERCLA to insure that the gas treatment system is protecting human health and the environment.

f. Comment:

In as much as the preferred alternative is aimed at reducing the impacts of contaminants in the groundwater, General Dynamics does not understand how the alternative can be evaluated relative to reducing health impacts.

EPA Response:

As discussed in response to comment A.5. in Part 2, although a plume of hazardous contaminants is presently not migrating from the Site, there is a potential for one to emerge in the future. The selected remedy is designed to protect public health and the environment from the threat posed by future releases. Presently, a potential risk to public health and the environment is not posed from ingesting the groundwater. However, the landfill is located over the Slatersville Aquifer which is designated as future drinking water source. The selected remedy is designed to prevent a release to the groundwater while at the same time monitoring to insure that any threat from a release will not impact the intended use of the aquifer.

5. Wetlands

a. Comment:

The first paragraph on page 10-25 of the RI/FS Report states that "the most severe environmental effects from the L&RR Site are due to erosion of landfill soils and subsequent sedimentation in the wetland floodplain". Wehran contends that this conclusion is not a CERCLA issue.

EPA Response:

Section 104(a)(1) of CERCLA states that "Whenever (A) any hazardous substance is released or there is a substantial threat of such a release into the environment, or (B) there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare, the President is authorized to act, consistent with the national contingency plan, to remove or arrange for the removal of, and provide for remedial action relating to such hazardous substance, pollutant or contaminant at any time, or take any other response measure necessary to protect the public health or welfare or the environment."

There are substantial threats of releases of hazardous substances at the L&RR Site. The sand cover was installed to prevent releases of hazardous substances. The correction of the erosion from the sand cover at the Site, including the restoration of the wetlands affected by that erosion, is

a response action necessary to protect public health, or welfare and the environment. Section 101 of CERCLA defines "response" to include "removal", and defines the latter to include "such other actions as may be necessary to prevent, minimize or mitigate damage to public health, welfare or the environment which may result from the release or threat of a release."

Section 101 states that the term "pollutant or contaminant" includes "any element, substance, compound, or mixture," which, "after release into the environment and upon exposure, ingestion, inhalation or assimilation into any organism, will or may reasonable be anticipated to cause death,." At the L&RR Site, the sand eroding from the landfill cover is a substance that is causing death to organisms in the wetlands. Furthermore, this sand is preventing the reestablishment of the wetlands. The sand needs to be remediated and future impacts need to be prevented. CERCLA gives EPA the authority to remediate this substance from the wetlands and prevent future impacts.

b. Comment:

The third paragraph on page 10-25 states "that continued erosion is expected to prevent recolonization by wetland plant species". Wehran notes that during the Site visit conducted on August 5, 1988, recolonization by wetland plant species was, in fact, observed in many locations impacted by sedimentation.

EPA Response:

Recolonization of some sections of the wetland plant species was observed on August 5, 1988, indicating sediment loading rates were lower than expected in some areas. However, in other areas, die off of alders which had been alive during wetland investigation was observed, including that impacts to the wetland are continuing to occur. Additionally, the wetland continues to have a low value in terms of aquatic habitat and other functional attributes.

c. Comment:

Extrapolation of effects from acute toxicity tests performed in many different laboratories to field situations is an inappropriate practice. The hypothesis that an impact on the system exists based on chemical analysis of samples from the wetland media is suspect. Furthermore, hardness data was not collected to adequately assess the aquatic water quality criteria.

systems have performed well in non-capped sites. Individual gas wells can be adjusted for optimal vacuum pressures, thus, assuring that air intrusion is not a significant factor in the combustion process. Should a minor amount of air penetrate through the cover soils and be collected within the system, a possible soil and waste drying effect would result and further reduce potential leachate generation. Therefore, Wehran does not feel the argument favoring a synthetic cover, based on the grounds of air intrusion, has any merit and requests further consideration of Alternative 2 and an active gas collection system.

EPA Response:

Although gas extraction systems can be operated on sites without synthetic covers, to obtain the best operating conditions the gas extraction system should be operated in conjunction with a synthetic cover in the northeast area. An uncovered landfill affords the opportunity for air to enter the landfill and dilute the landfill gas. The concern is not only that there would be dilution, but also that the dilution would be uncontrolled. This situation would reduce the quantity of combustible methane gas being drawn, reduce the quality of the gas to be burned, and introduce a greater variability into the landfill gas composition. In turn, the efficiency production would be reduced.

Landfill gas is generally combined with 4 to 6.5 volumes of air per volume of gas to obtain a proper burning mixture. With the current cover system, an unknown quantity of air would be drawn into the landfill. It would be difficult to control the air to gas ratio required for proper operation without supplemental fuel and continuous monitoring of system performance.

Gas treatment is required due to the presence of hazardous constituents in the landfill gas. Installation of the liner would increase the probability of attaining the destruction and removal efficiencies expected with the systems.

Additionally, the primary reason for installing the synthetic cover in the northeast area of the Site was to protect the groundwater. Alternative 2 does not include a synthetic cover and therefore does not provide the necessary groundwater protection.

b. Comment:

There were no investigations in the landfill. Since geophysical surveys were not conducted within the limits of the landfill, the contaminant source has not been adequately characterized. Without this information, the effectiveness of the alternatives at minimizing infiltration can not be properly assessed.

EPA Response:

EPA's RI/FS for the L&RR Site was conducted using a phased approach. At the conclusion of the first phase, EPA discovered that a plume of hazardous contaminants was not migrating from the Site. Therefore, EPA did not believe it was necessary to conduct investigations within the landfill and disrupt the existing landfill cover which may be protecting the groundwater. Instead, EPA believes that it is more effective to implement a groundwater monitoring program to assess the performance of the Site.

7. Site History

a. Comment:

The information presented on page 1-9 and ES-2 of the RI/FS Report is incorrect. In 1985, Wehran prepared a Remedial Investigation Summary Report. This was not a separate investigation but a summary report utilizing data from numerous engineering investigations and reports for the L&RR Site. The purpose of this report was to identify to EPA that an adequate amount of investigative data was available to initiate remedial activities in conformance with the Court Order between L&RR and the RIDEM. Wehran was never advised that this report was evaluated by EPA's contractor (GCA Corporation) or that there were data gaps or deficiencies noted during this evaluation, nor was Wehran given any opportunity to correct any alleged deficiencies.

EPA Response:

EPA acknowledges Wehran's comment and adds the following clarifying points. Between June of 1983 and January of 1985, EPA conducted numerous negotiations with L&RR, Inc., to conduct an RI/FS. An agreement was not reached and EPA withdrew from the process of negotiations on January 29, 1985, intending to conduct an RI/FS using federal funds. The owner proceeded to close the landfill in January of 1985 according to the 1983 Court Order and plans developed by Wehran. During 1985 and 1986, GCA under contract to EPA, observed the Site closure operations and evaluated its compliance with RCRA Subtitle C regulations. The information obtained by GCA was intended to supplement information obtained during EPA's RI/FS. EPA notified L&RR, Inc., of deficiencies in the closure operations in a number of written correspondence throughout the closure operations.

8. Groundwater and Geophysical Investigations

a. Comment:

The number, location and design of the wells is insufficient for characterizing current or future impacts of contaminants on groundwater.

EPA Response:

A number of factors must be considered when establishing a network of groundwater monitoring wells at a site. Presently there are 14 groundwater monitoring wells installed around the perimeter of the Site. Nine of these wells were installed by the present Site owner. After reviewing hydrologic and geologic information for the Site, EPA installed five additional monitoring wells during the RI/FS to gather information to characterize contamination at the Site. The long-term groundwater monitoring plan outlined in the Record of Decision requires a new cluster of wells. This cluster will have two wells and will be located between monitoring well clusters CW-6 and CW-7. The specific location of this cluster will be decided during the design phase. Given the geologic conditions at the Site, this monitoring well network will identify a contaminant groundwater plume migrating from the Site. Given that above background concentrations of inorganic substances and other parameters in the groundwater have been detected down gradient from the Site, this suggests that these wells are properly located to also intersect organic contamination.

b. Comment:

The geophysical investigation was extremely limited since only six stations were vertically sounded. Furthermore, the zones of high conductivity were interpreted to be due to possible leachate. However, the high conductivity could be due to the power lines, buried drums or other metal objects within the landfill.

No explanation was given for the inability to interpret vertical resistivity soundings B, E and F.

EPA Response:

The data from vertical electrical resistivity soundings was very limited as noted and the data was not used in a quantitative sense for the construction of geologic profiles.

During the RI, the proximity of the power lines was not expected to substantially affect the results. Data that was expected to be the result of or affected by buried drums and

debris was indicated as such in the results.

No solutions are presented for vertical soundings B, E and F because the data quality was not sufficient to provide reliable solutions. There was "scatter" present in all three of these data sets, perhaps due to lateral variation in stratigraphy/moisture conditions.

c. Comment:

Bedrock interpretations in the RI were base on five test borings and geophysical data. The spacial distribution is not adequate for accurate bedrock elevation interpretation.

EPA Response:

It is correct that fewer hydrogeologic data were obtained from the bedrock flow system. In an attempt to further our understanding of the bedrock flow regime, a water balance was conducted to determine the flow into or out of the bedrock aquifer. Exploration of the bedrock would have been conducted during a latter phase of study if significant overburden contamination was encountered in the first phase..

d. Comment:

Fate and Transport of the groundwater is not adequately characterized. It is likely that the ice contact deposits form the primary pathway for migration of contaminants from the landfill to off-site areas since the permeability of this unit is estimated to be more than the kame delta deposits.

EPA Response:

A specific figure for indicating groundwater flow in the ice contact deposits was not developed for several reasons. First, the ice contact deposits do not appear to be aerially extensive and seemed to occur as a lense. Second, where they were encountered, the potentiometric surface was very similar to the overlying kame delta deposits.

9. Miscellaneous

a. Comment:

Tables 11-1 and 11-2 are not provided in the RI/FS Report and, as such, Wehran is unable to provide comment. Wehran requests that these tables be made available for review and comment.

EPA Response:

These tables were present in the original RI/FS document. A copy of the original document was submitted to L&RR, Inc. Wehran could have requested a copy of these tables from the original document from either EPA or L&RR, Inc., during the comment period. Additionally, a complete copy of these documents were available for public review in two repositories as indicated in EPA's Proposed Plan.

b. Comment:

None of the data from the previous reports were used in the RI/FS completed by EC Jordan.

EPA Response:

The L&RR Site has been the focus of several investigations. The information and data developed in these prior studies and investigations has been considered, and where appropriate, has been used in the evaluations for the L&RR RI/FS. Most of this data could only be used qualitatively because quality assurance/quality control information was not available for the data.

B. LEGAL CONCERNS REGARDING EPA INVESTIGATIONS AND THE PROPOSED PLAN

1. Site History

a. Comment:

The company that conducted the RI/FS, namely E.C. Jordan Company, used to be known as Perkins Jordan, Inc. The RI/FS Report fails to mention that the consultant which was advising the State of Rhode Island in matters regarding the L&RR Site leading up to the Consent Order and Agreement was none other than this identical firm, at the time called Perkins Jordan. Consequently, the credibility of the current recommendation by this firm to spend five to six million dollars on the slopes is undermined by the fact that in 1983 this same firm studied this Site and did not make this recommendation.

EPA Response:

It is correct that in 1983, Jordan Co. personnel working as part of Perkins Jordan, Inc., served as consultants to the RIDEM. Jordan's role at this time was to provide expert testimony on the potential for the L&RR landfill to impact domestic wells in the area. Jordan personnel reviewed available data provided by RIDEM and indicated that, in their professional judgement, the potential for impact to

wells existed. However, during that study no samples were collected or analyzed and no engineering evaluations were made regarding landfill design closure.

b. Comment:

Nowhere in the RI/FS Report is there any mention that in 1983 the RIDEM and L&RR, Inc., entered into a Consent Order and Agreement setting forth how to close the Site in an "environmentally sound manner". Furthermore, at a contested hearing on July 13, 1983, the Superior Court of the State of Rhode Island approved that Consent Order and Agreement, entered it as a Court Order, and retained jurisdiction over the Site. The 1983 Court Order approved and instituted stringent plans for: final operation, closure, capping, methane recovery and removal, post-closure monitoring, setting aside money for long-term monitoring, stabilization of slopes, vegetating slopes, and litter and dust control. The plans for these were explicitly incorporated as part of the Court Order.

EPA Response:

The purpose of this RI/FS Report was not to give a detailed explanation of the history of the litigation between RIDEM and L&RR, Inc. EPA is aware of the 1983 Court Order. However, EPA was not a party to the State Court proceedings and is not bound by its terms and conditions. The Administrative Record contains extensive documentation regarding the history of the Site as well as a copy of the 1983 Court Order. All of this information was reviewed by EC Jordan prior to conducting the RI/FS.

c. Comment:

The RI/FS fails to mention that before the RIDEM agreed to enter into the Agreement on June 29, 1983, the RIDEM sent all these plans and proposals to the EPA for review. These plans explicitly dealt with slopes and covers as well as the extent of infiltration and steps to minimize it. After intensive review by EPA and meetings between and among the EPA, the RIDEM, and L&RR on June 20, 1983 and June 26, 1983, the EPA gave the RIDEM its OK to enter into the Consent Order and Agreement (the 1983 Court Order). In reliance on that, on June 29, 1983, the RIDEM proceeded to sign the Consent Order and Agreement.

Along those lines, the RI/FS Report also fails to mention that the EPA reviewed the 1983 Court Order as a remedial action and as a RI/FS back in 1983. The EPA analyzed the 1983 Court Order from that point of view and made comments. Those comments are set forth in an EPA letter dated July 26, 1983. Consequently, the credibility of this report's recommendations is eroded by the fact that the report fails

to mention that the EPA in 1983 reviewed the 1983 submission both as a remedial action and as an RI/FS and did not find fault with those parts which the current report finds fault with.

EPA Response:

EPA did not approve the 1983 Court Order between L&RR, Inc., and RIDEM, either as a fulfillment of the requirements of the National Contingency Plan (NCP), 40 CFR Part 300, or in any other sense. EPA's July 26, 1983 letter to David Wilson explicitly states that RIDEM had recommended the settlement to EPA, as they were required to do by the terms of the Court Order, but the letter does not say that EPA had accepted the RIDEM's recommendation. In fact, EPA's letter recommended substituting a different groundwater monitoring plan and specifically queried whether remedial action had been considered to prevent off-site groundwater contamination. The record shows that after reviewing the July 26, 1988 letter, L&RR, Inc., with its consultants, Wehran Engineering, met with EPA and discussed additional work to be covered by an administrative consent order to be issued by EPA on consent to L&RR, Inc.

The record shows that in subsequent months, EPA attempted to negotiate with L&RR, Inc., for the performance of a Remedial Investigation/Feasibility Study which would satisfy federal requirements. The record shows that EPA considered the available information on the Site insufficient for EPA to approve L&RR's closure plans. Specifically, EPA wanted further investigation of the bedrock aquifer, the potential for off-site groundwater contamination, the extent of off-site contamination, if any, the extent of impacts on off-site surface water and wetlands and the effect of the risk posed by air releases.

In a letter dated December 13, 1984, David Wilson of L&RR, Inc., informed EPA that L&RR, Inc., would not sign EPA's proposed consent order. Mr. Wilson proposed to submit new information to EPA in an effort to convince the Agency that the order was unnecessary. EPA replied in a letter dated January 29, 1985, stating that EPA was withdrawing from negotiations with L&RR, Inc., and clearly stating that EPA was reserving the right to take further actions, either on its own or through its enforcement powers to obtain a complete RI/FS. EPA indicated its willingness, on the basis of a satisfactory RI/FS, to consider whether closure under the Court Order would be sufficient to allow delisting of the Site from the National Priorities Lists (NPL). In the same letter, EPA detailed the history of its communications with L&RR, Inc. EPA emphasized that it did not agree with L&RR's position that EPA's July 26, 1983 letter constituted an "approval" of the 1983 Court Order. EPA stated that it had never found that the closure satisfied EPA's

requirements, and indicated that only compliance with the landfill closure standards of RCRA would satisfy EPA's policy (That policy has since been made statutory in SARA).

EPA wrote to L&RR, Inc., on May 13, 1985, re-iterating that EPA was not a party to the Court Order. The letter offered comments, emphasizing that the comments were not offered as conditions for EPA approval of L&RR's work which EPA would not give outside of an enforceable consent order with EPA. EPA's comments specified that the closure did not appear to satisfy the requirements of 40 CFR Subparts F,G and N. EPA specifically indicated that the proposed cover appeared unlikely to provide long-term minimization of infiltration. Subsequently, in letters dated June 7, August 13, and October 10, 1985, EPA commented on certain aspects of L&RR activities, while re-establishing that EPA was not prepared to give L&RR formal approval of its closure. EPA noted that it did not have the authority to enforce the state consent order, and did not have resources to carry out a comprehensive review of activities carried out by a party which had refused to enter an enforceable consent order with EPA. EPA's comments were offered only as "comments and an indication of the standards against which the Site closure may be evaluated by EPA in the future." EPA again reiterated its position and set forth in detail its concerns about L&RR's closure in a letter dated November 1, 1985, identifying specifically the lack of a cap in the area which EPA now proposes to cap. This letter was sent to L&RR before completion of the closure. In summary, the record clearly indicates EPA's disapproval with the closure conducted by L&RR to date.

d. Comment:

The RI/FS forgets to mention that the Superior Court of the State of Rhode Island has retained jurisdiction over the Site. With due respect to the EPA, no one has any authority to do anything to the L&RR Site except in conformity with the terms and conditions of that Court Order. While federal courts generally have jurisdiction in Superfund cases, it is doubtful that a federal court would intrude on the existing exercise of state court jurisdiction, given the doctrine of comity, notions of estoppel, and the conclusion of the RI/FS that neither groundwater nor the surface water nor the sediments pose a threat to public health.

EPA Response:

The state proceedings have not deprived EPA of the authority to carry out response actions or take enforcement under CERCLA. In fact, CERCLA §122(e)(6) specifically prohibits any responsible party from undertaking any remedial action without authority from EPA after EPA has commenced an RI/FS. Thus, L&RR may not carry out further remedial action without

federal approval.

e. Comment:

There are several inaccuracies regarding the history of the Site in the RI/FS Report. This comment is intended to correct some of them.

L&RR's landfill license was up for renewal as of December 1, 1980 and L&RR filed a timely renewal application. Since L&RR had made a timely and sufficient application for the renewal of its license, its existing license did not expire. Its application was finally determined by the department at the end of October 1981 and pursuant to G.L. 42-35-14(b), the reviewing court in successive orders continued the license in effect through mid-January 1985.

On November 9, 1981, L&RR ceased operating in response to a RIDEM order. L&RR went to court to get a court order. L&RR ceased operations from November 9, 1981 until December 28, 1981, at which time the Superior Court of the State of Rhode Island ruled. The Court ruled that the RIDEM decision dated October 30, 1981 was "replete with procedural and substantive anomalies of grave proportions" and issued a court order allowing L&RR to continue to operate. L&RR resumed operation that afternoon.

The RIDEM tried to appeal the Superior Court order but was not successful. At that juncture, the RIDEM issued a second order against L&RR to cease operations. L&RR went to court and asked to have the RIDEM held in contempt. On January 20, 1982, the Superior Court of the State of Rhode Island held the RIDEM in contempt and issued an order that L&RR could continue to operate under the supervision and jurisdiction of the State of Rhode Island. The RIDEM on or about January 22, 1982 withdrew its second order. However, L&RR remained under the supervision and jurisdiction of the court which is in effect today. L&RR closed pursuant to a Superior Court order issued on July 13, 1983 which allowed L&RR to continue operating through mid-January 1985. As January 1985 approached, there was a dispute as to whether certain conditions set forth in the court order would allow L&RR to stay open longer than the date originally planned for, which was January 13, 1985. L&RR and the RIDEM brought this to the attention of the court before that date. Court hearings were held, at the close of which on January 20, 1985 the court ruled that the conditions justifying L&RR staying open further had not been met and L&RR was ordered to close in conformity with the previous court order, which it did.

EPA Response:

EPA acknowledges this information and entered it into the Administrative Record.

2. Applicable or Relevant and Appropriate Requirements (ARARs)

a. Comment:

The 1983 Court Order have extraordinarily strong bearing on what are the applicable and relevant and appropriate standards by which this Site should be judged. CERCLA indicates that ARARs are supposed to be site-specific. There is hardly anything more site-specific than a Court Order in a contested case determining what is environmentally sound for this Site. Therefore, as a matter of law, that Court Order sets forth the applicable and relevant and appropriate standards.

EPA Response:

CERCLA §121 establishes the clean-up standards to be met under CERCLA. A court order is not a "promulgated standard, requirement, criteria or limitation" which must be met by a CERCLA remedial action. Section 121(d)(c)(iii) specifically requires that state ARARs be of "general applicability", and be based on "hydrologic, geologic, or other relevant considerations." Moreover, §121 does preclude imposition of more stringent federal standards where state clean-up standards are less stringent than relevant federal ones.

b. Comment:

The RI/FS Report discusses applicable Rhode Island regulations governing covers for hazardous waste sites and specifically a cover thickness requirement of 24 inches. However, the 1983 Court Order contains a statement by the Rhode Island Department of Environmental Management and its Director that they accept and approve this Court Order and Agreement, "as full compliance with and fulfillment of any and all requirements of all applicable rules, regulations, and statutory provisions under the jurisdiction of the RIDEM and the Director". This statement negates the RI/FS Report's claim that state ARARs require more.

EPA Response:

EPA finds the 24-inch cover requirement to be "relevant and appropriate," even if it is not "applicable" because of RIDEM's settlement with L&RR. See also preceding responses.

c. Comment:

The RI/FS assumes that the RCRA standards are "relevant and appropriate" to the entire Site. However, that fact is not substantiated by the record. It is particularly not substantiated with regard to the steeper slopes. The RCRA standards are applicable to hazardous waste sites. The RI/FS states that hazardous waste was placed in one area of the landfill and covered with a synthetic cover in 1979. More trash was placed on top of this area and then another synthetic cover was placed pursuant to the 1983 Court Order. Therefore, the RCRA standards are not relevant and appropriate.

EPA Response.

EPA finds that the RCRA requirements are relevant and appropriate at this Site because they address problems or situations that are sufficiently similar to those at other hazardous waste sites. There is information that clearly indicates that hazardous wastes was disposed of at the Site. However, there is no definitive information regarding the location of the hazardous waste. The Site owner states that hazardous waste was co-disposed in the north-central area of the Site and covered with a synthetic cover in 1979. Other reports in the Administrative Record indicate that this may not be entirely correct. Information regarding the existing condition of the cover installed in 1979 is not available. Information regarding the hydrologic flow within the landfill is also not available. Channelized flow could result in infiltration from uncovered landfill areas impacting areas containing hazardous waste. RCRA Subtitle C regulations for closure of landfills are well suited to address the situation at this Site and must be applied to the entire landfill.

In addition, CERCLA is concerned with preventing a release of "hazardous substances" and the closure standard in the RCRA regulations is designed to prevent the release of "hazardous constituents." The hazardous waste is not necessarily the only source of hazardous substances or hazardous constituents. EPA therefore believes that the RCRA clousre performance standard should apply to the entire landfill. EPA also believes that extension of the synthetic cover would be required under other closure standards applicable to solid waste landfills including RCRA Subtitle D, the Rhode Island Solid Waste Management Act and Rhode Islands's Groundwater Protection Act.

d. Comment:

The key date in the analysis of relevant and appropriate requirements is July 13, 1983, the date the Superior Court of the State of Rhode Island determined what would be the appropriate way to close the Site in "an environmentally

sound manner." The RI/FS Report sets forth the laws, regulations, and guidances it relied on. Virtually all of them were adopted after that date. There already was a remedial action in effect on July 13, 1983, before any of these things took effect. The issue of the appropriate remedial action has already been determined in a contested case by a court of competent jurisdiction in 1983. Therefore, amendments to the federal law after the fact are not relevant.

EPA Response:

Nothing in CERCLA §121 supports the contention that standards adopted after the settlement of a state enforcement action are not relevant and appropriate.

3. Landfill Gas Emissions and the Risk Assessment

a. Comment:

The report concludes that five million dollars must be spent on the steep side slopes because of the risk to the public from air emissions. However, the report never tested the air emissions from the side slopes. Therefore, there is no evidence in the record to substantiate that conclusion.

EPA Response:

The RI/FS report does not state that five million dollars must be spent on the steep side slopes because of the risk to the public from air emissions. The work on the steep side slopes is primarily being conducted to protect the groundwater and the wetlands. The synthetic cover proposed will also enhance the treatment of the gases from the vents which poses a potential risk to public health. Detailed information on the cost analysis is presented in Appendix BB of the RI/FS Report. It is clearly stated that the cost for the work on the steep side slopes is estimated to be between $600,000 and $700,000.

4. Remedial Alternatives Analyzed

a. Comment:

The RI/FS Report's repeated reference to the no-action alternative as meaning no remedial action is a material misstatement of fact. There already is a court-approved remedial action in place.

EPA Response:

In conducting an RI/FS according to the NCP, EPA must evaluate what is referred to as the "no action" alternative. The evaluation of the no action alternative provides EPA

with information regarding the risks posed to human health and the environment if no remedial actions are conducted at the Site. In the case of L&RR, the Site owner had conducted work at the Site prior to completing an RI/FS. The "no action" alternative evaluated by EPA considered the work conducted by the Site owner at the time of completion of the RI/FS.

5. **EPA's Proposed Plan**

a. Comment:

Under CERCLA Section 121, even if RCRA standards were relevant, no remedy can be approved unless it is "cost-effective". This proposal patently is not. The RI/FS Report states that, "On the basis of an assessment of existing site hydrogeologic and chemical data, the groundwater, surface water, and sediments do not pose a threat to public health." Given the fact that there is already a remedy in place and the remedy is working, it is not obvious in any manner whatsoever how spending an additional five million dollars could be cost-effective.

EPA Response:

As discussed in many responses previously, the selected remedy and specifically the synthetic cover is intended to protect the groundwater. Although groundwater impacts are not evident to date, it is possible that a groundwater contaminant plume may emerge in the future. EPA must chose a remedy that is protective of human health and the environment, meets ARARs, is cost effective and utilizes permanent solutions to the maximum extent practicable.

b. Comment:

The RI/FS Report argues that one small part of the Site does not minimize infiltration. However, from the point of view of the entire Site, the Site as a whole minimizes infiltration. If the landfill owner had not put a cover over 80% of the Site pursuant to the 1983 Court Order and Consent Order and Agreement, we would find ourselves in a situation today where we would have to determine over what part of the Site it would be cost-effective to put a liner. The only logical conclusion that could be reached would be that the only cost-effective area for placing a liner is the identical area where the liner now exists. Consequently, had no liner ever been put down, a report done today would conclude that placing a liner over 80% of the Site would effectively minimize infiltration.

EPA Response:

The RCRA Subtitle C regulations in 40 CFR § 264.310 are relevant and appropriate at the L&RR Site. These regulations, among other provisions, require an owner or operator at final closure to cover the landfill with a final cover designed and constructed to provide long-term minimization of liquids through the closed landfill. L&RR chose to close the landfill by capping approximately 80% of the landfill surface area with a synthetic cover. This leads one to conclude that L&RR felt that a synthetic cover was a practical solution to reducing infiltration to the landfill. EPA believes that to reduce the infiltration to the smallest amount, requires a synthetic cover over the remaining 20% of the landfill surface area. A synthetic cover over the entire landfill will attain a standard of performance equivalent to the RCRA Subtitle C closure standard and assure protection of human health and the environment.

c. Comment:

With regard to a methane recovery system, we note that the 1983 Court Order requires a methane recovery system. There is no reason for EPA to get involved in that because the state already has that within its jurisdiction. Furthermore, on February 11, 1987, L&RR, Inc., entered into a contract with O'Brien Energy Systems, Inc., for the installation of a methane recovery system at the Site. The RI/FS establishes that once that system is in place, it will remedy any air problem, if there is one.

EPA Response:

Section 122(e)(6) of CERCLA specifically prohibits any responsible party from undertaking any remedial action without authority from EPA after EPA has commenced an RI/FS. Thus, L&RR may not carry out further remedial action without federal approval. Due to the potential risks posed by the landfill's gaseous emissions, this system must be implemented in accordance with EPA's Record of Decision and meet EPA's approval.

The RI/FS Report does not establish that any particular methane recovery and removal system will remedy air pollution problems. The RI/FS evaluated technologies that are capable of reducing the gaseous landfill emissions to the levels necessary to protect public health. Since EPA has not evaluated a specific design, it is not clear that the O'Brien Energy Systems, Inc., gas control system will achieve the emissions reductions necessary to meet the standard set by EPA's Record of Decision (ROD).

IV. REMAINING CONCERNS

At the public informational meeting held in North Smithfield on July 19, 1988, and at the informal public hearing held on August 10, 1988, local residents raised issues of concern for the L&RR Site regarding the design and implementation phase of EPA's selected remedy. The principle issues are described below, along with statements about how EPA intends to address these concerns.

1. Groundwater

Citizens continue to be very concerned that a contaminant plume may form in the groundwater beneath the landfill and fail to be detected by the existing monitoring wells. They are concerned that their residential wells may become contaminated as a result.

As a result of this concern, EPA once again reviewed the hydrologic and geologic information for the Site and established a groundwater monitoring plan that would detect a groundwater plume emerging from the Site. As part of this new plan, a new cluster of wells, consisting of two new wells at different depths, will be installed between existing clusters CW-6 and CW-7.

2. Landfill Owner's Role in Implementing the Remedy

Citizens feel strongly that the cleanup would not be conducted thoroughly by the landfill owner. In particular, citizens are concerned about the landfill owner possibly operating the landfill gas treatment system.

According to the law, EPA must negotiate with the responsible parties for conducting the remedial action. If the responsible parties agree to implement the selected remedy in accordance with CERCLA, EPA will monitor the design and construction to insure that it is protective of public health and the environment. Furthermore, the selected remedy includes an air monitoring program to insure that during operation the selected remedy remains protective.

COMMUNITY RELATIONS ACTIVITIES
AT THE
LANDFILL AND RESOURCE RECOVERY SITE
IN NORTH SMITHFIELD, RHODE ISLAND

Community relations activities conducted at the Landfill and Resource Recovery Superfund Site (L&RR Site) have included the following:

- 1983 -- EPA released a community relations plan describing citizen concerns about the L&RR Site and outlining a program to address these concerns and to keep citizens informed about and involved in Site activities.

- October 1986 -- EPA revised the community relations plan to reflect changes in the level of community concern and to plan activities designed to meet new community needs.

- January 1987 -- EPA held an informational meeting to present to the community EPA's plans for a Remedial Investigation and Feasibility Study (RI/FS) at the L&RR Site.

- July 1988 -- EPA arranged for the publication of two public notices in the Providence Journal and the Woonsocket Call announcing a public informational meeting and describing EPA's Proposed Plan for addressing contamination at the L&RR Site.

- July 1988 -- EPA mailed the Proposed Plan announcing EPA's preferred alternative for addressing contamination at the L&RR Site to all parties on EPA's site mailing list.

- July 19, 1988 -- EPA held an informational public meeting to discuss the results of the RI/FS and to present EPA's Proposed Plan for the Site.

- July 20 - September 2, 1988 -- EPA held a six-week public comment period to accept public comments on the FS alternatives and the Proposed Plan. The six week comment period included a three-week extension that EPA held to allow additional time for interested parties to participate in the remedy selection process.

- August 10, 1988 -- EPA held an informal public hearing to accept oral comments on the remedial alternatives evaluated in the FS and on EPA's Proposed Plan.

APPENDIX B

ADMINISTRATIVE RECORD INDEX

Landfill & Resource Recovery Site

Landfill & Resource Recovery, Inc.

NPL Site Administrative Record

Index

As of September 29, 1988

Prepared for

Region I
Waste Management Division
U.S. Environmental Protection Agency

With Assistance from

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Introduction

This document is the Index to the Administrative Record for the Landfill and Resource Recovery, Inc. National Priorities List (NPL) Site. Section I of the Index cites site-specific documents, and Section II cites guidance documents used by EPA staff in selecting a response action at the Site.

The Administrative Record is available for public review at EPA Region I's Office in Boston, Massachusetts, and at the North Smithfield Municipal Annex Building, 85 Smithfield Avenue, North Smithfield, Rhode Island, 02895. Questions concerning the Administrative Record should be addressed to the EPA Region I site manager.

The Administrative Record is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

Section I

Site-Specific Documents

ADMINISTRATIVE RECORD INDEX

for the

Landfill & Resource Recovery, Inc. NPL Site

1.0 Pre-Remedial

1.2 Preliminary Assessment

1. "Potential Hazardous Waste Site - Identification and Preliminary Assessment" Form, EPA Region I (November 30, 1979).
2. Memorandum from Robert O'Meara, EPA Region I to Gerald M. Levy, EPA Region I (January 18, 1980).
3. "Preliminary Site Assessment and Emergency Action Plans," Ecology & Environment, Inc. (February 13, 1981).
4. "Preliminary Site Assessment," Ecology & Environment, Inc. (April 21, 1981).

1.3 Site Inspection

1. "Potential Hazardous Waste Site - Site Inspection Report" Form, EPA Region I (March 20, 1980).
2. Memorandum from Robert Young, Ecology & Environment, Inc. to John F. Hackler, EPA Region I with Attached "Potential Hazardous Waste Site - Site Inspection Report" Form, EPA Region I (May 5, 1982).

1.7 Correspondence Related to Proposal of a Site to the NPL

1. Letter from Nancy Z. Piligian, EPA Region I to Charles S. Wilson, Truk-Away R. I., Inc. (June 1, 1983).
2. Letter from Christine J. Spadafor, EPA Region I to Kenneth M. Bianchi, Town of North Smithfield Town Council (October 21, 1983).
3. Letter from Christine J. Spadafor, EPA Region I to Steven Burke, Town of North Smithfield Conservation Commission (October 21, 1983).

1.9 Comments and Responses to Comments

1. Comments Dated February 23, 1983 from Dean N. Temkin, Coffey, McGovern, Noel, Novogrowski and Neal, Ltd. for Landfill & Resource Recovery, Inc. on the "Amendment to National Oil and Hazardous Substance Contingency Plan; the National Priorities List."
2. Comments from EPA Region I on the February 1983 "Proposed National Priorities List."

1.12 Hazard Ranking Package

1. "Mitre Model Scoring," Ecology & Environment, Inc. (October 23, 1981).
2. Memorandum from Robert Young, Ecology & Environment, Inc. to John F. Hackler, EPA Region I with Attached "Hazard Ranking Package," Ecology & Environment, Inc. (August 17, 1982).
3. Hazard Ranking Package, EPA Region I (August 30, 1982).

1.12 Hazard Ranking Package (cont'd.)

4. "Rating Form for Waste Disposal Sites," EPA Region I.
5. "Appendix E - Model Worksheets," EPA Region I.

1.13 FIT Related Correspondence

1. Progress Report, State of Rhode Island Department of Environmental Management (June 2, 1980).
2. Memorandum from Lori J. Fucarile, Ecology & Environment, Inc. to William R. Norman, Ecology & Environment, Inc. (January 2, 1981).
3. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and David J. Wilson, Truk-Away R. I., Inc. (January 12, 1981).
4. Letter from William R. Norman, Ecology & Environment, Inc. to Robert O'Meara, EPA Region I (January 14, 1981).
5. Telephone Notes Between Lori J. Fucarile, Ecology & Environment, Inc. and Muriel Halloran, Protect Our Water (January 22, 1981).
6. Telephone Notes Between Lori J. Fucarile, Ecology & Environment, Inc. and the Town of North Smithfield Fire Department (January 23, 1981).
7. Telephone Notes Between Lori J. Fucarile, Ecology & Environment, Inc. and Muriel Halloran, Protect Our Water (January 29, 1981).
8. Letter from Charles S. Wilson, Landfill & Resource Recovery, Inc. to William R. Norman, Ecology & Environment, Inc. (January 29, 1981).
9. Letter from Charles S. Wilson, Landfill & Resource Recovery, Inc. to William R. Norman, Ecology & Environment, Inc. (March 12, 1981).
10. Telephone Notes Between Lori J. Fucarile, Ecology & Environment, Inc. and Muriel Halloran, Protect Our Water (March 12, 1981).
11. Telephone Notes Between Lori J. Fucarile, Ecology & Environment, Inc. and Muriel Halloran, Protect Our Water (March 17, 1981).
12. Letter from Muriel Halloran, Protect Our Water to Lori J. Fucarile, Ecology & Environment, Inc. (March 17, 1981).
13. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and David J. Wilson, Landfill & Resource Recovery, Inc. (March 21, 1981).
14. Letter from Lori J. Fucarile, Ecology & Environment, Inc. to Muriel Halloran, Protect Our Water (March 24, 1981).
15. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and Steven L. Dean, Whitman and Howard, Inc. (April 22, 1981).
16. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and Charles S. Wilson, Landfill & Resource Recovery, Inc. (April 24, 1981).
17. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and David J. Wilson, Landfill & Resource Recovery, Inc. (April 30, 1981).
18. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and Charles S. Wilson, Landfill & Resource Recovery, Inc. (April 30, 1981).
19. Telephone Notes Between William R. Norman, Ecology & Environment, Inc. and Charles S. Wilson, Landfill & Resource Recovery, Inc. (May 4, 1981).
20. Letter from Bruce N. Colby, Systems, Science and Software to VIAR and Company (July 14, 1981).
21. Memorandum from William R. Norman, Ecology & Environment, Inc. to File (October 13, 1981).
22. EPA Region I Attendance List, Meeting with the Town of North Smithfield, Protect Our Water and the State of Rhode Island Department of Environmental Management (December 15, 1981).
23. Memorandum from Robert L. Booth, EPA Headquarters to Warren Oldaker, EPA Region I (January 14, 1982).

1.13 FIT Related Correspondence (cont'd.)

24. Letter from John F. Hackler, EPA Region I to Charles E. Dileva, State of Rhode Island Department of Environmental Management (January 28, 1982).
25. Letter from John F. Hackler, EPA Region I to Charles S. Wilson, Landfill & Resource Recovery, Inc. (January 28, 1982).

1.18 FIT Technical Direction Documents (TDDs) and Associated Records

1. "Monitoring Well Sample Analysis," Ecology & Environment, Inc. (April 1978 through December 1980).
2. Boring Logs, Guild Drilling Company, Inc. (November 3, 1980).
3. Metal Analysis Map, Wehran Engineering Corporation (November 13, 1980).
4. Safety Plan, Ecology & Environment, Inc. (January 13, 1981).
5. "BARCAD Installation," State of Rhode Island Department of Environmental Management (January 20, 1981).
6. Memorandum from Lori J. Fucarile, Ecology & Environment, Inc. to Robert O'Meara, EPA Region I (January 23, 1981).
7. Field Boring Logs, Whitman & Howard, Inc. (April 15, 1981).
8. Chronology of Monitoring Well Samples, EPA Region I (May 5, 1981 through May 7, 1981).
9. "Chain of Custody Record" Form, EPA Region I (May 8, 1981).
10. Memorandum from John Panaro, Ecology & Environment, Inc. to William R. Norman, Ecology & Environment, Inc. (May 12, 1981).
11. Memorandum from John Panaro, Ecology & Environment, Inc. to William R. Norman, Ecology & Environment, Inc. (May 12, 1981).
12. Letter from Thomas E. Wright, State of Rhode Island Department of Environmental Management to Barbara Ikalainen, EPA Region I (May 13, 1981).
13. Memorandum from William R. Norman, Ecology & Environment, Inc. to John F. Hackler and Barbara Ikalainen, EPA Region I (May 14, 1981).
14. Memorandum from William R. Norman, Ecology & Environment, Inc. to Charles S. Wilson, Landfill & Resource Recovery, Inc. with Attached Monitoring Well Parameters (June 2, 1981).
15. "Uncontrolled Waste Site Program," Systems, Science and Software (June 5, 1981).
16. Memorandum from William R. Norman, Ecology & Environment, Inc. to Barbara Ikalainen, EPA Region I with Attached Sample Analyses (June 24, 1981).
17. Memorandum from William R. Norman, Ecology & Environment, Inc. to Barbara Ikalainen, EPA Region I (June 29, 1981).
18. "Certificate of Analysis," New England Testing Laboratory, Inc. (July 1, 1981).
19. "Draft - Sampling and Analytical Procedures," (July 31, 1981).
20. "Sampling and Analytical Procedures," Ecology & Environment, Inc. (August 4, 1981).
21. "Location of Monitoring Wells" Map, Ecology & Environment, Inc.
22. "Chemicals Identified in L&RR Surface Water Samples," Ecology & Environment, Inc.
23. "Chemicals in L&RR Monitoring Well Samples," Ecology & Environment, Inc.
24. Reference List, Ecology & Environment, Inc.
25. "Laboratory Weekly Report," EPA Region I.
26. "Appendix B - Well Monitoring Data," Ecology & Environment, Inc.
27. "Appendix C - Index," Ecology & Environment, Inc.
28. "Frequency of Occurrence of Priority Pollutants," Ecology & Environment, Inc.

1.18 FIT Technical Direction Documents (TDDs) and Associated Records (cont'd.)

29. Inorganics Analysis Data Sheets, EPA Region I.
30. Organic Analyses Map, Wehran Engineering Corporation.

3.0 Remedial Investigation (RI)

3.1 Correspondence

1. Telephone Notes Between John Gallagher, EPA Region I and Charles S. Wilson, Landfill & Resource Recovery, Inc. (June 12, 1986).
2. Telephone Notes Between Richard Boynton, EPA Region I and Charles S. Wilson, Landfill & Resource Recovery, Inc. (July 8, 1986).
3. Letter from Bryan Barrette, State of Rhode Island Department of Health to John Gallagher, EPA Region I (January 15, 1987).
4. Telephone Notes Between John Gallagher, EPA Region I and Charles S. Wilson, Landfill & Resource Recovery, Inc. (March 6, 1987).
5. Memorandum from John Gallagher, EPA Region I to Cynthia Talbot, EPA Region I (March 10, 1987).
6. "Cover System Assessment," EPA Region I (June 9, 1987).

3.2 Sampling and Analysis Data

The Sampling and Analysis Data and Contract Laboratory Program (CLP) Data for the Remedial Investigation (RI) may be reviewed, by appointment only, at EPA Region I, Boston, Massachusetts.

3.4 Interim Deliverables

1. "Draft - Remedial Action Master Plan," NUS Corporation (May 1983).
2. "Technical Memorandum - Initial Sampling and Analysis Activities - Task 1 - Remedial Investigation/Feasibility Study," E. C. Jordan Co. for Ebasco Services Incorporated (February 1987).
3. "Technical Memorandum No. 1 - Initial Activities," E. C. Jordan Co. (May 7, 1987).
4. "Technical Memorandum No. 2 - Subsurface Investigation," E. C. Jordan Co. (May 7, 1987).
5. "Technical Memorandum No. 3 - Preliminary Landfill Cover Assessment," E. C. Jordan Co. (August 14, 1987).
6. "Technical Memorandum No. 4 - Geophysical Investigation," E. C. Jordan Co. (August 20, 1987).
7. "Technical Memorandum No. 5 - Geology, Hydrogeology and Groundwater Risk Assessment," E. C. Jordan Co. (September 17, 1987).

3.6 Remedial Investigation (RI) Reports

1. Memorandum from Lynne Fratus, EPA Region I to File Concerning the "Draft - Remedial Investigation Report" and "Remedial Investigation/Feasibility Study" (July 5, 1988).

3.7 Work Plans and Progress Reports

1. "Final - Work Plan - Remedial Investigation and Feasibility Study Resource," Ebasco Services Incorporated (January 1987).

4.0 Feasibility Study (FS)

4.4 Interim Deliverables

1. Letter from Elizabeth M. DeSwarte and Susan A. Waite, E. C. Jordan Co. to Lynne Fratus, EPA Region I Concerning the Effect of Extending the Synthetic Cover on Gas Treatment (July 13, 1988).

4.5 Applicable or Relevant and Appropriate Requirements (ARARs)

1. Letter from Susan A. Waite, E. C. Jordan Co. to Lynne Fratus, EPA Region I (July 15, 1988).

4.6 Feasibility Study (FS) Reports

Reports

1. "Remedial Investigation/Feasibility Study," E. C. Jordan Co. for Ebasco Services Incorporated (June 1988).
2. "Appendices for Remedial Investigation/Feasibility Study," Ebasco Services Incorporated (June 1988).

Comments

Comments on the Remedial Investigation/Feasibility Study received by EPA Region I during the formal public comment period are filed and cited in 5.3 Responsiveness Summaries.

4.9 Proposed Plans for Selected Remedial Action

Proposed Plan

1. "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I (July 1988).

Comments

Comments on the Proposed Plan received by EPA Region I during the formal public comment period are filed and cited in 5.3 Responsiveness Summaries.

5.0 Record of Decision (ROD)

5.1 Correspondence

1. Cross Reference: Letter from Robert L. Bendick, Jr., State of Rhode Island Department of Environmental Management to Michael R. Deland, EPA Region I Concerning State Concurrence (September 27, 1988) is Appendix C of the Record of Decision [Filed and cited as entry number 1 in 5.4 Record of Decision (ROD)].

5.2 Applicable or Relevant and Appropriate Requirements (ARARs)

1. "Covers for Uncontrolled Hazardous Waste Sites," EPA Headquarters (September 1985).

5.3 Responsiveness Summaries

Responsiveness Summary

1. Cross Reference: Responsiveness Summary is Appendix A of the Record of Decision [Filed and cited as entry number 1 in 5.4 Record of Decision (ROD)].

Comments

The following citations indicate documents received by EPA Region I from the State of Rhode Island during the formal comment period.

2. Comments Dated September 2, 1988 from Robert L. Bendick, Jr., State of Rhode Island Department of Environmental Management on the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.

The following citations indicate documents received by EPA Region I from Potentially Responsible Parties (PRPs) during the formal comment period.

3. Comments Dated August 29, 1988 from Kevin M. Burger, Wehran Engineering Corporation on the June 1988 "Remedial Investigation/Feasibility Study," E. C. Jordan Co. for Ebasco Services Incorporated.
4. Comments Dated September 1, 1988 from John R. Kirkland, General Dynamics on the June 1988 "Remedial Investigation/Feasibility Study," E. C. Jordan Co. for Ebasco Services Incorporated and the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.

   The maps associated with the record cited in entry number 5 may be reviewed, by appointment only, at EPA Region I, Boston, Massachusetts.

5. Comments with Attachments Dated September 1, 1988 from Dean N. Temkin, Dean N. Temkin & Associates for Landfill & Resource Recovery, Inc. on the June 1988 "Remedial Investigation/Feasibility Study," E. C. Jordan Co. for Ebasco Services Incorporated and the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.

The following citations indicate documents received by EPA Region I from the public during the formal comment period.

6. Comments Dated August 23, 1988 from Ernest F. Woodworth on the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.
7. Comments Dated August 24, 1988 from Daniel C. Halloran, Protect Our Water on the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.
8. Comments Dated August 30, 1988 from James E. White and Marion H. White on the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.
9. Comments Dated September 2, 1988 from Raymond C. Church, Town of North Smithfield on the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I.

5.3 Responsiveness Summaries (cont'd.)

Public Meeting Transcript

10. Transcript, Proposed Plan Public Meeting, Allied Court Reporters (August 10, 1988).

Comment Responses

11. Memorandum from Russel Boyd, Ebasco Services Incorporated to Lynne Fratus, EPA Region I Concerning Responses to Comments Received During the Formal Comment Period on the June 1988 "Remedial Investigation/Feasibility Study," E. C. Jordan Co. for Ebasco Services Incorporated and the July 1988 "Proposed Plan - Superfund Program - Landfill & Resource Recovery, Inc. Site," EPA Region I (September 26, 1988).

5.4 Record of Decision (ROD)

1. Record of Decision, EPA Region I (September 29, 1988).

7.0 Remedial Action (RA)

7.2 Sampling and Analysis Data

1. Letter from Charles S. Wilson, Landfill & Resource Recovery, Inc. to Alicia Good, State of Rhode Island Department of Environmental Management with Attached Monitoring Well Analysis (August 11, 1988).

9.0 State Coordination

9.1 Correspondence

1. Letter from Merrill S. Hohman, EPA Region I to Daniel Varin, State of Rhode Island Statewide Planning Program (May 1, 1986).

10.0 Enforcement

10.3 State and Local Enforcement Records

1. Chronology of Events (March 1978 through January 1982).
2. "An Act Relating to Hazardous Waste Management" (Act 79S 215 Sub A, January 1979) *Laws of the of State of Rhode Island* 79.
3. Meeting Notes, Town of North Smithfield Zoning Board (September 20, 1979).
4. "Decision of Zoning Board of Review of the Town of North Smithfield" (February 29, 1980).
5. Decision, *In Re: Appeal by Landfill & Resource Recovery, Inc. of Director's Order*, State of Rhode Island Department of Environmental Management (October 15, 1980).
6. Letter from Arthur Denomme, Town of North Smithfield to John F. Hackler, EPA Region I (December 30, 1980).
7. Letter from Daniel C. Halloran, Protect Our Water to Daniel Schatz, State of Rhode Island Office of the Attorney General (February 9, 1981).
8. Letter from Protect Our Water to Daniel Schatz, State of Rhode Island Office of the Attorney General (February 23, 1981).
9. Letter from Elizabeth M. Cesario, Town of North Smithfield Town Council to John F. Hackler, EPA Region I (April 27, 1981).

10.3 State and Local Enforcement Records (cont'd.)

10. Letter from Frank P. Geremia, State of Rhode Island Department of Environmental Management to Anne A. Mandeville, Town of North Smithfield with Attached Decision and Order, *In Re: Landfill and Resource Recovery, Inc.*, State of Rhode Island Department of Environmental Management (November 5, 1981).
11. Letter from Paul P. Baillargeon, Paul P. Baillargeon Inc. for the Town of North Smithfield to Lester A. Sutton, EPA Region I with Attached Affidavit of Frank B. Stevenson, *Landfill and Resource Recovery, Inc. vs. W. Edward Wood, et al.*, State of Rhode Island Supreme Court, C. A. No. 81-4091 and Affidavit of Robert F. Weisberg, *Landfill & Resource Recovery, Inc. vs. Department of Environmental Management of the State of Rhode Island*, State of Rhode Island Supreme Court, C. A. No. 81-4091 (December 3, 1981).
12. Memorandum from Jack Keane, EPA Region I to File (February 11, 1982).
13. Order, *Landfill & Resource Recovery, Inc. vs. Department of Environmental Management of the State of Rhode Island*, State of Rhode Island Supreme Court, C.A. No. 81-4091 (July 13, 1983).
14. "Court Order of Superior Court of the State of Rhode Island with Attached Plans and Studies," Wehran Engineering Corporation (July 13, 1983).
15. Letter from Kenneth M. Bianchi, Town of North Smithfield Town Council to Christine J. Spadafor, EPA Region I (August 31, 1983).
16. Notification to the Court, the DEM, the Director, and the Town of North Smithfield that L&RR Hereby Exercises Its Entitlement, Pursuant to Page 6, Paragraph 13 of Judge Almeida's Court Order of July 13, 1983, to Stay Open Until April 27, 1985, on Account of Interference with the Operation of L&RR and Trucks Going To It, *Landfill & Resource Recovery, Inc. vs. State of Rhode Island Department of Environmental Management*, State of Rhode Island Superior Court, C. A. No. 81-4091 (September 18, 1984).
17. Stipulation, *Landfill & Resource Recovery, Inc. vs. State of Rhode Island Department of Environmental Management*, State of Rhode Island Supreme Court, C.A. No. 84-0260, 85-0025, and 85-0153 (January 16, 1986).
18. Memorandum from Paul P. Baillargeon, Paul P. Baillargeon, Inc. to File.
19. Administrative Hearing Notice, State of Rhode Island Department of Environmental Management.

10.8 EPA Consent Decrees

1. Letter from Dean N. Temkin, Coffey, McGovern, Noel, Novogrowski & Neal, Ltd. for Landfill & Resource Recovery, Inc. to John R. Moebes, EPA Region I (March 21, 1984).
2. Memorandum from Francis J. Biros, EPA Region I to Michael R. Deland, EPA Region I (September 5, 1984).
3. Letter from Charles C. Bering, EPA Region I to Dean N. Temkin, Coffey, McGovern, Noel, Novogrowski & Neal, Ltd. for Landfill & Resource Recovery, Inc. (September 11, 1984).
4. Letter from Dean N. Temkin, Coffey, McGovern, Noel, Novogrowski & Neal, Ltd. for Landfill & Resource Recovery, Inc. to Charles C. Bering, EPA Region I (September 20, 1984).
5. Letter from Merrill S. Hohman, EPA Region I to David J. Wilson, Landfill & Resource Recovery, Inc. (November 21, 1984).
6. Agreement and Administrative Order by Consent, *In the Matter of Landfill and Resource Recovery, Inc.*, Landfill and Resource Recovery, Inc., Respondent, Docket No. 85-1003 (November 21, 1984).
7. "Consent Agreement and Order - Executive Summary," EPA Region I (November 21, 1984).

10.8 EPA Consent Decrees (cont'd.)

8. Letter from John R. Moebes, EPA Region I to David J. Wilson, Landfill & Resource Recovery, Inc. (January 29, 1985).

11.0 Potentially Responsible Party (PRP)

11.9 PRP-Specific Correspondence

1. Letter from Merrill S. Hohman, EPA Region I to Charles S. Wilson, Landfill & Resource Recovery, Inc. (June 3, 1986).

11.12 PRP Related Documents

1. Memorandum from R. Daniel Prentiss, State of Rhode Island Department of Environmental Management to Stephen Majkut, State of Rhode Island Department of Environmental Management with Attachments (August 20, 1979).

13.0 Community Relations

13.1 Correspondence

1. Letter from Daniel C. Halloran, Protect Our Water to Samuel Silverman, EPA Region I (March 9, 1979).
2. Letter from Samuel Silverman, EPA Region I to Daniel C. Halloran, Protect Our Water (September 28, 1979).
3. Letter from Carol M. Drainville and Muriel Halloran, Protect Our Water to John F. Hackler, EPA Region I (November 29, 1980).
4. Letter from Christine J. Spadafor, EPA Region I to Charles Voyer (August 12, 1983).
5. Letter from Christine J. Spadafor, EPA Region I to Arthur Denomme, Town of North Smithfield Town Council (August 12, 1983).
6. Letter from Christine J. Spadafor, EPA Region I to Kenneth M. Bianchi, Town of North Smithfield Town Council (August 17, 1983).
7. Letter from Christine J. Spadafor, EPA Region I to James Bedell, Town of North Smithfield (November 28, 1983).
8. Letter from Lynne Fratus, EPA Region I to Dean N. Temkin, Dean N. Temkin & Associates for Landfill & Resource Recovery, Inc. (August 31, 1988).
9. Letter from Lynne Fratus, EPA Region I to A.E. Caron (August 31, 1988).
10. Letter from Lynne Fratus, EPA Region I to Richard Viney (August 31, 1988).
11. Letter from Lynne Fratus, EPA Region I to Charles S. Wilson, Landfill & Resource Recovery, Inc. (August 31, 1988).

13.2 Community Relations Plans

1. "Revised Community Relations Plan," Ebasco Services Incorporated (October 1986).

13.3 News Clippings/Press Releases

1. "Environmental News - Public Meeting to Explain Plans for the Landfill & Resource Recovery Superfund Site Announced," EPA Region I (December 22, 1986).
2. "Environmental News," EPA Region I Concerning Proposed Plan Public Meeting (July 11, 1988).

13.3 News Clippings/Press Releases (cont'd.)

3. "Environmental News," Concerning the Proposed Plan Comment Period Extension and the Availability of the Administrative Record, EPA Region I (August 12, 1988).

The records cited in entry number 4 may be reviewed, by appointment only, at EPA Region I, Boston, Massachusetts.

4. 5 News Clippings from the Following Newspapers:

- The Call - Woonsocket, RI
- Evening Bulletin - Providence, RI
- The Observer - Greenville, RI
- Providence Journal - Providence, RI

13.4 Public Meetings

1. Meeting Notes, EPA Region I (January 7, 1987).
2. "Public Meeting Summary," EPA Region I (July 19, 1988).
3. Cross Reference: Transcript, Proposed Plan Public Meeting (August 10, 1988) [Filed and cited as entry number 7 in 5.3 Responsiveness Summaries].

13.5 Fact Sheets

1. "Fact Sheet Hazardous Waste Site," EPA Region I (September 18, 1980).
2. "Superfund Program Information Sheet," EPA Region I (January 1987).

14.0 Congressional Relations

14.1 Correspondence

1. Letter from Fernand J. St Germain, Member of the US House of Representatives to Elizabeth M. Cesario, Town of North Smithfield Town Council (September 5, 1980).
2. Letter from William R. Adams, Jr., EPA Region I to Claiborne Pell, Member of the US Senate (September 25, 1980).
3. Letter from Douglas M. Costle, EPA Region I to John H. Chafee, Member of the US Senate with Attachments (November 10, 1980).
4. Letter from Carol M. Drainville and Muriel Halloran, Protect Our Water to Claiborne Pell, Member of the US Senate (December 2, 1980).
5. Letter from Carol M. Drainville and Muriel Halloran, Protect Our Water to John H. Chafee, Member of the US Senate (December 2, 1980).
6. Letter from William R. Adams, Jr., EPA Region I to Claiborne Pell, Member of the US Senate (February 5, 1981).
7. Letter from William R. Adams, Jr., EPA Region I to Fernand J. St Germain, Member of the US House of Representatives (February 18, 1981).
8. Letter from Leslie A. Carothers, EPA Region I to John H. Chafee, Member of the US Senate (April 9, 1981).
9. Letter from Lester A. Sutton, EPA Region I to Fernand J. St Germain, Member of the US House of Representatives (November 30, 1981).
10. Letter from Fernand J. St Germain, Member of the US House of Representatives to Michael R. Deland, EPA Region I (September 7, 1983).

14.1 Correspondence (cont'd.)

11. Letter from Michael R. Deland, EPA Region I to Fernand J. St Germain, Member of the US House of Representatives (October 6, 1983).
12. Letter from John H. Chafee, Member of the US Senate to Lynne Fratus, EPA Region I (September 7, 1988).
13. Letter from Claiborne Pell, Member of the US Senate to Michael R. Deland, EPA Region I (September 8, 1988).

15.0 Freedom of Information Act (FOIA) Management

15.1 Correspondence

1. Telephone Notes Between Christine J. Spadafor, EPA Region I and Daniel C. Halloran, Protect Our Water (September 21, 1983).

15.3 Responses

1. Letter from Christine J. Spadafor, EPA Region I to Daniel C. Halloran, Protect Our Water (October 6, 1983).
2. Letter from Christine J. Spadafor, EPA Region I to Daniel C. Halloran, Protect Our Water (December 2, 1983).

16.0 Natural Resource Trustee

16.1 Correspondence

1. Letter from Gordon E. Beckett, US Department of the Interior Fish and Wildlife Service to David Webster, EPA Region I (September 10, 1985).
2. Letter from Kenneth Finkelstein, US Department of Commerce National Oceanic and Atmospheric Administration to John Gallagher, EPA Region I (September 18, 1987).
3. Memorandum from Lynne Fratus, EPA Region I to Kenneth Finkelstein, US Department of Commerce National Oceanic and Atmospheric Administration (April 1, 1988).
4. Letter from Gordon E. Beckett, US Department of the Interior Fish and Wildlife Service to Lynne Fratus, EPA Region I (April 20, 1988).
5. Letter from Kenneth Finkelstein, US Department of Commerce National Oceanic and Atmospheric Administration to Lynne Fratus, EPA Region I (April 28, 1988).

16.4 Trustee Notification Form and Selection Guide

1. Letter from Merrill S. Hohman, EPA Region I to William Patterson, US Department of the Interior with Attached "Trustee Notification" Form, EPA Region I.
2. Letter from Merrill S. Hohman, EPA Region I to Sharon Christopherson, US Department of Commerce National Oceanic and Atmospheric Administration with Attached "Trustee Notification" Form, EPA Region I.

Section II

Guidance Documents

GUIDANCE DOCUMENTS

EPA guidance documents may be reviewed at EPA Region I, Boston, Massachusetts.

General EPA Guidance Documents

1. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, amended October 17, 1986.

2. Covers for Uncontrolled Hazardous Waste Sites, September 1985.

3. Letter from Lee M. Thomas to James J. Florio, Chairman, Subcommittee on Consumer Protection and Competitiveness, Committee on Energy and Commerce, U.S. House of Representatives, May 21, 1987 (discussing EPA's implementation of the Superfund Amendments and Reauthorization Act of 1986).

4. Memorandum from Gene Lucero to the U.S. Environmental Protection Agency, August 28, 1985 (discussing community relations at Superfund Enforcement sites).

5. Memorandum from J. Winston Porter to Addressees ("Regional Administrators, Regions I-X; Regional Counsel, Regions I-X; Director, Waste Management Division, Regions I, IV, V, VII,and VIII; Director, Emergency and Remedial Response Division, Region II; Director, Hazardous Waste Management Division, Regions III and VI; Director, Toxics and Waste Management Division, Region IX; Director, Hazardous Waste Division, Region X; Environmental Services Division Directors, Region I, VI, and VII"), July 9, 1987 (discussing interim guidance on compliance with applicable or relevant and appropriate requirements).

6. "National Oil and Hazardous Substances Pollution Contingency Plan," Code of Federal Regulations (Title 40, Part 300), 1985.

7. U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Community Relations in Superfund: A Handbook (Interim Version) (EPA/HW-6), September 1983.

8. U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Draft Guidance on Remedial Actions for Contaminated Groundwater at Superfund Sites (OSWER Directive 9283.1-2), September 20, 1986.

9. U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Superfund Federal-Lead Remedial Project Management Handbook (EPA/540/G-87/001, OSWER Directive 9355.1-1), December 1986.

10. U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Superfund Public Health Evaluation Manual (OSWER Directive 9285.4-1), October 1986.

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14. U.S. Environmental Protection Agency. Office of Solid Waste and Emergency Response. Guidance on Feasibility Studies under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) (EPA/540/G-85/003), June 1985.

15. U.S. Environmental Protection Agency. Office of Solid Waste and Emergency Response. Guidance on Remedial Investigations under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) (EPA/540/G-85/002), June 1985.

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APPENDIX C

STATE CONCURRENCE LETTER

Landfill & Resource Recovery Site

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
OFFICE OF THE DIRECTOR
9 Hayes Street
Providence, R.I. 02908

September 27, 1988

Mr. Michael Deland
E.P.A. Region I
J.F. Kennedy Federal Building
Boston, Massachusetts 02203

Dear Mr. Deland:

I am writing concerning EPA's proposed plan for remediation at the Landfill and Resource Recovery Site (L&RR) in North Smithfield, Rhode Island.

This Department concurs with those portions of the proposed plan which are consistent with the closure requirements outlined in the 1988 Solid Waste Consent Order and Agreement between RIDEM and L&RR, Inc. We understand your laws and regulations may require more stringent remedial actions and it appears the additional components of your proposed remedy, although more protective, are not inconsistent with the closure measures required by the State's consent agreement.

Very truly yours,

Robert L. Bendick, Jr.
Director

RLB/ms
cc: Tom Getz
0652B

L&RR Settlement Agreement and Consent Decree:

Appendix B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
RD/RA SETTLEMENT AGREEMENT AND CONSENT DECREE
LANDFILL & RESOURCE RECOVERY SUPERFUND SITE

APPENDIX B
STATEMENT OF WORK

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Settlement Agreement and Consent Decree
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REMEDIAL DESIGN/REMEDIAL ACTION STATEMENT OF WORK

I. INTRODUCTION AND PURPOSE

The purpose of this Statement of Work (SOW) is to define the response activities, including, but not limited to, the Remedial Design, the Remedial Action and the Operation and Maintenance activities conducted and to be conducted by the Settling Defendants pursuant to the Unilateral Administrative Order (UAO) and the Settlement Agreement and Consent Decree for the Landfill & Resource Recovery (L&RR) Superfund Site (the Site). The SOW describes the response activities based on the September 29, 1988 Record of Decision (ROD) for the Site. The SOW defines the Settling Defendants' obligations regarding activities and deliverables and establishes a schedule for these activities and deliverables. To the extent that the SOW references regulations, these regulations are incorporated only to the extent that they are either applicable or relevant and appropriate under the circumstances.

II. DEFINITIONS

The definitions provided in the Settlement Agreement and Consent Decree are incorporated herein by reference. In addition, the following definitions shall apply:

A. "Design" shall mean an identification of the technology and its performance and operational specifications, in accordance with all cleanup standards, Performance Standards and applicable and relevant and appropriate federal and state standards, requirements, criteria and limitations as developed by EPA, including, but not limited to, the following:

1. all computations used to size units and determine the appropriateness of technologies and the projected effectiveness of all systems;

2. topographic maps of the upgraded Landfill closure system identifying the size and the placement of the synthetic cover, the adjusted vertical and horizontal boundaries of the Landfill, the placement of the surface water runoff system, the placement of the fence, and the placement of the new groundwater monitoring wells;

3. plans identifying the layout of the gas collection and thermal destruction system including the size and the placement of the collection structures, the treatment facility placement, the gaseous emission discharge area,

and the size and the placement of the pipelines connecting the Landfill gas vents and the treatment system;

4. scale drawings of the Landfill closure system including, but not limited to, vertical cross sections identifying the components of the cover system;

5. groundwater monitoring well diagrams;

6. quantitative analysis demonstrating the ability of the Remedial Design to achieve the Performance Standards;

7. technical specifications which detail the following:

   a. the size, the type and the process for installation of each major component of the Landfill cover system including, but not limited to, the stabilization system, the synthetic cover, the cover soils and the vegetation;

   b. the size, the type and the process for installation of the fence;

   c. the size, the type and the process for installation of each major component of the gas collection and thermal destruction system;

   d. the required performance criteria of each major component; and

   e. any other technical specifications required for a general contract to provide accurate and complete bids for construction.

8. a description of the groundwater, surface water, and air monitoring systems including, but not limited to, equipment, monitoring locations, analytical methods, parameters, and data handling procedures; and

9. a description of any easements necessary for the performance or maintenance of the Remedial Action required by the ROD, the UAO and the Settlement Agreement and Consent Decree and for the Site, which are to be supplied with construction plans and specifications.

III. WORK OVERVIEW

The ROD describes the following remedial response objectives for Remedial Action at the Site:

1. Remediate the Site so that federal and state applicable or relevant and appropriate standards, requirements, criteria and limitations, to the extent they are either applicable or relevant and appropriate, are met and to insure that the Site is protective of human health and the environment;

2. Reduce present and future impacts to wetlands due to sedimentation of eroded Landfill cover material; and

3. Remediate the Landfill gas so that volatile organic compound concentrations in ambient air are reduced and risks to public health and the environment are minimized.

The selected remedy in the ROD has three major components which together form a comprehensive approach to Site remediation and address the response objectives outlined above.

This SOW, together with the UAO, and the Settlement Agreement and Consent Decree provide for the implementation of the following three components of the selected remedy:

a. (1) Upgrading the Landfill closure by extending the steep side slopes in the uncovered northeast area of the Landfill, and installing a synthetic cover in this area; (2) establishing a cover thickness of at least twenty-four (24) inches and vegetation over the entire Landfill; (3) upgrading the surface water runoff management system; (4) ensuring Site security by installing and maintaining a fence around the entire Site; and (5) establishing institutional controls.

b. Collecting and treating the Landfill gas using a thermal destruction technology so that volatile organic compound concentrations in ambient air are reduced and risks to public health and the environment are minimized.

c. Post-closure inspection, operation and maintenance of the Landfill cap, gas collection and treatment system, and other components of the remedy; long-term monitoring of the groundwater, surface water, Landfill gas emissions and migration, and ambient air to ensure that the remedy remains protective.

IV. REMEDIAL DESIGN, REMEDIAL ACTION, AND OPERATION AND MAINTENANCE

In accordance with the ROD and the UAO, the Settling Defendants have performed the following activities: Evaluation of the Synthetic Cover Installation/Slope Stabilization Alternatives; Evaluation of the Three Thermal Destruction Gas Treatment Technologies; Design and Construction of the Components for Upgrading the Landfill Closure; and Design and Construction of the Gas Collection and Thermal Destruction Treatment System. The continuing operation, maintenance, and monitoring requirements for these activities are provided below.

A. Design, Construction, Operation and Maintenance of the Landfill Closure.

The Landfill closure system shall be designed, constructed, operated and maintained to comply with RCRA Landfill closure requirements under 40 C.F.R. § 264.310. Specifically, the Landfill cover system shall be designed, constructed, operated and maintained to:

1. Provide long-term minimization of migration of liquids through the Landfill. The total infiltration over the entire Landfill must be less than two percent (2%) of the average annual rainfall (1,280,000 gallons/acre/year) as calculated using the Thornthwaite and Mather method as republished by Fenn, Hanley and Degeare, in 1977. Performing Settling Defendants shall demonstrate to EPA that the cover system minimizes infiltration by recalculating infiltration using the method identified above and Site specific data. The Performing Settling Defendants shall submit a summary report of the results of this evaluation to EPA as part of the reports required in Sections VI.C. and VI.E. of this SOW.

2. Function with minimum maintenance.

3. Promote drainage and minimize erosion or abrasion of the Landfill cover. Total erosion from the entire Landfill should be less than 2 tons/acre of soil per year as calculated by the USDA Universal Soil Loss Equation. Performing Settling Defendants shall demonstrate to EPA that the cover system minimizes erosion by recalculating erosion using the method identified above and Site specific data. The

Performing Settling Defendants shall submit a summary report of the results of this evaluation to EPA as part of the reports required in Sections VI.C. and VI.E. of this SOW.

4. Accommodate settling and subsidence so that the Landfill cover's integrity is maintained.

5. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

The Landfill closure system shall be constructed, operated and maintained according to quality control and assurance provisions to ensure that the technical and performance specifications for each component of the Landfill closure system are met.

B. Design, Construction, Operation and Maintenance of the Gas Collection and Thermal Destruction Treatment System

The gas collection and thermal destruction system shall be designed, constructed, operated and maintained in accordance with the Preparedness and Prevention requirements in 40 C.F.R. Part 264, Subpart C and the Contingency Plan and Emergency Procedures in 40 C.F.R. Part 264, Subpart D.

The Performing Settling Defendants shall demonstrate through modeling to EPA that the gaseous emissions from the Landfill meet the Rhode Island Air Toxic Standards at the boundary of the Site and shall demonstrate protectiveness as part of the reports required in Sections VI.C. and VI.E. of this SOW and with respect to air emissions in an open-vent condition after discontinuance of the operation of the gas collection and thermal destruction system as part of the report required in Section VI.G. The demonstration of compliance shall, at a minimum, include:

1. Conducting analytical testing on samples of the influent and effluent streams and monitoring of the enclosed flare operating parameters in accordance with the Post Closure Operation and Maintenance Plan. Split samples can be collected by EPA to confirm analytical results of the influent and effluent testing.

2. Calculating the destruction and removal efficiencies for each of the compounds detected from the enclosed flare.

3. Calculating the concentrations of each compound detected at the boundary of the Landfill from the enclosed flare and under open-vent conditions after discontinuance of the operation of the flare using an EPA approved dispersion model and comparing the concentrations at the boundary of the Landfill during operation of the enclosed flare to the Rhode Island Air Toxic Standards.

4. Conducting ambient air monitoring at the boundary of the Landfill during operation of the enclosed flare in order, to the extent possible and appropriate, to confirm protectiveness of the remedy; and to supplement and verify the results of the dispersion modeling.

C. Post Closure Operation and Maintenance Plan

The Performing Settling Defendants have developed a Post Closure Operation and Maintenance Plan (Post Closure Operation and Maintenance Plan) for post-closure and site monitoring activities in accordance with the Closure and Post Closure requirements in 40 C.F.R. Part 264, Subpart G, the monitoring and inspection requirements in 40 C.F.R. §§ 264.15 and 264.303, and the Record Keeping and Reporting Requirements in 40 C.F.R. Part 264, Subpart E.

The Post Closure Operation and Maintenance Plan describes planned operations, or maintenance and inspection activities, and the frequencies of those activities. These activities, described in the Post Closure Operation and Maintenance Plan include, but are not limited to, the following:

1. inspection and maintenance of gas and groundwater monitoring equipment;
2. periodic mowing;
3. inspection and maintenance of the cap's integrity which may include, as necessary, hand shovel investigations over the entire Landfill to identify imperfections in the membrane;
4. inspection, operation and maintenance of the gas collection and treatment system;
5. inspection and maintenance of the surface water management system;
6. inspection and maintenance of the security fence; and,
7. protection and maintenance of surveyed benchmarks.

In addition, the Post Closure Operation and Maintenance Plan contains programs for monitoring the groundwater, surface water, and the air at the Site. The monitoring program shall be reviewed after a minimum of five years of monitoring is completed and if EPA determines that modification of the monitoring program is necessary to ensure the protectiveness of the remedy and compliance with ARARs, Performing Settling Defendants shall modify the program as required by EPA.

The groundwater monitoring program includes a description of the following: sampling techniques, development techniques, analytical methods, QA/QC program, data presentation formats and monitoring well proposal.

The groundwater monitoring program for the Site shall be designed, implemented, operated and maintained in accordance with the requirements of 40 C.F.R. §§ 264.97 - 264.101. The monitoring program shall be based on specific hydrologic conditions and shall be capable of detecting and identifying a groundwater contaminant plume.

The air monitoring program specifies the monitoring locations, the sampling technique, the indicator parameters, the QA/QC program and frequency of monitoring. This includes ambient air monitoring and emissions testing to insure that the system is protecting public health and the environment.

EPA's Functional Guidelines for data analysis and validation shall be utilized for all sampling and analysis.

After each groundwater sampling event, the Performing Settling Defendants shall develop and submit Post Closure Site Monitoring Reports which will provide results of all sampling and analyses performed during that reporting period. These reports shall be developed in accordance with the record keeping and reporting requirements in 40 C.F.R. Part 264, Subpart E and shall include, but not be limited to, the following:

a. a map of the Site showing sample locations;
b. tabular representation of laboratory results by each media including comparison with any standard levels, with exceedances of maximum contaminant levels (MCLs)and other Performance Standards high-lighted;
c. laboratory results on a computer disc in a spreadsheet file such as Lotus 1-2-3 or D-Base;
d. data validation packages;
e. results of statistical analysis on data;

f. interpretation of any trends;
g. inspection reports;
h. a description of maintenance activities completed;
I. an explanation of problems encountered in the field and measures taken to mitigate the problems; and,
j. activities planned for the next reporting period.

In addition, the Performing Settling Defendants shall submit a summary report every five (5) years to EPA. The purpose of this report is to provide EPA with information necessary to evaluate the performance of the selected remedy and to determine if the remedy continues to be protective of human health and the environment. The summary report shall include, but not be limited to, tables summarizing all the data collected and discussions of trends in concentrations.

The Performing Settling Defendants shall monitor the Site, maintain the Landfill closure, and operate and maintain the gas collection and thermal destruction system in accordance with the Post Closure Operation and Maintenance Plan. During such operation, the Performing Settling Defendants shall monitor air emissions and ambient air quality. Upon discontinuance of the operation of the gas collection and thermal destruction system, the Performing Settling Defendants shall monitor air emissions and ambient air quality in an open vent-condition and shall maintain the Landfill closure according to the approved Post Closure Operation and Maintenance Plan. The Performing Settling Defendants shall continue operation, maintenance and monitoring activities for thirty (30) years unless EPA determines that such period should be extended in order to ensure that the Remedial Action set forth in the ROD is and remains protective and to protect the public health and the environment, in which case the Performing Settling Defendants shall continue the monitoring and operation and maintenance for the extended period.

D. Compliance with Other Laws

The Performing Settling Defendants shall meet or attain all applicable or relevant and appropriate federal and state standards, requirements, criteria and limitations that apply to the Site as identified in the ROD and this SOW, to the extent they are applicable or relevant and appropriate.

V. SITE SECURITY AND INSTITUTIONAL CONTROLS

As part of the Post Closure Operation and Maintenance Plan, the Performing Settling

Defendants have implemented and shall continue to implement a Site Security Plan which provides for Site security in accordance with 40 C.F.R. § 264.117(b), and 40 C.F.R. § 264.14. The Site Security Plan shall include, but not be limited to, a description of the measures to be taken to assure the safety of the personnel and equipment on-site, safety of residents on and off-site, and to provide an effective barrier against unauthorized public access. The Site Security Plan shall be designed to reflect and complement the level of work activity on-site, and shall incorporate 24-hour security, if found to be necessary by EPA.

The Settling Defendants shall establish institutional and access controls pursuant to Section X of the Settlement Agreement and Consent Decree which will ensure that the Remedial Action set forth in the ROD is or remains protective and to protect the public health and the environment.

VI. MODIFICATIONS AND FINAL INSPECTIONS AND REPORTS

A. Design Modifications

If during implementation of the Remedial Action or Operation and Maintenance activities, Site conditions warrant modifications of the design of the Remedial Action or Operation and Maintenance activities, EPA or the Performing Settling Defendants may propose such design modifications. After approval by EPA, after reasonable opportunity for review and comment by the State, the Performing Settling Defendants shall implement the modifications as approved or modified by EPA pursuant to Section XII of the Settlement Agreement and Consent Decree.

B. Pre-Final Site Inspection

Within fifteen (15) days after Performing Settling Defendants conclude that construction of the Remedial Action has been fully performed and all Performance Standards have been attained (except that the Cleanup Standards for gaseous emissions have only been achieved while the gas collection and thermal treatment system is operational), the Performing Settling Defendants shall schedule and conduct a PRE-FINAL SITE INSPECTION. This inspection shall include representatives from all parties involved in the Remedial Action, including but not limited to the Performing Settling Defendants and their contractors, EPA and the State. This inspection shall include a review of the completed construction with emphasis on any deficient

construction items and a proposed resolution and timeframe for correction.

C. Construction Completion Report

Within 30 days of the Pre-Final Site Inspection conducted pursuant to Section VI.B. of this SOW, the Performing Settling Defendants shall submit a CONSTRUCTION COMPLETION REPORT for review and approval or modification by EPA, after reasonable opportunity for review and comment by the State. The Construction Completion Report shall document the completion of all physical construction and shall include, at a minimum, the following documentation:

1. summary of site conditions and chronology of events;

2. a chronological summary of all construction activities and procedures actually undertaken and materials and equipment used;

3. tabulation of all analytical data and field notes prepared during the course of the Remedial Design and Remedial Action construction activities including, but not limited to:

   a. QA/QC documentation of these results; and

   b. presentation of these results in appropriate figures;

4. summary of the implementation of the construction quality control plan;

5. a description of construction, with appropriate photographs, maps and tables of each of the remedial activities, including landfill closure, gas collection and thermal destruction treatment system, and operation and maintenance activities;

6. evaluation regarding conformance of landfill closure and treatment processes with the ARARs and the Performance Standards;

7. a description of institutional controls established;

8. a description of access control established;

9. minor inspection/punch list of items remaining to be completed as identified during the Pre-Final Site Inspection and schedule for their completion;

10. a description of actions taken and a schedule of future actions to be taken to achieve the specified Performance Standards;

11. schedule for the Final Site Inspection; and

12. schedule for completion of the Remedial Action Report.

D. Final Site Inspection

Within 15 days after Performing Settling Defendants conclude that the punch list items identified in the Pre-Final Site Inspection have been resolved, the remedy meets the Performance Standards (except that the Cleanup Standards for gaseous emissions have only been attained while the gas collection and thermal treatment system is operational), and the remedy is operational and functional, the Performing Settling Defendants shall schedule and conduct a FINAL SITE INSPECTION. This inspection shall include representatives from all parties involved in the Remedial Action, including but not limited to the Performing Settling Defendants and their contractors, EPA and the State.

E. Remedial Action Report

Within 30 days of the Final Site Inspection, the Performing Settling Defendants shall submit the REMEDIAL ACTION REPORT for review and approval or modification by EPA, after reasonable opportunity for review and comment by the State. The Remedial Action Report shall document that all construction activities are complete, Performance Standards have been met (except that the Cleanup Standards for gaseous emissions have only been attained while the gas collection and thermal treatment system is operational), Final Site Inspection has been conducted, and the remedy is operational and functional, i.e., is functioning properly and is performing as designed. The REMEDIAL ACTION REPORT shall include documentation from the Construction Completion Report, a statement of completion of the Remedial Action and, at a minimum, the following documentation either by reference or contained in the Report:

1. description of the Site and the remedy, and as-built drawings signed and stamped by a professional engineer;

2. tabulation of all analytical data and field notes prepared during the course of the Remedial Design and Remedial Action activities including, but not limited to: landfill closure construction, full scale performance test of the flare; treatment residues; environmental monitoring; and QA/QC documentation of these results;

3. documentation that the Performance Standards have been met including, but not limited to, the RCRA Landfill closure requirements and the Rhode Island Air Toxic Standards during operation of the gas collection and thermal treatment system; the basis for determination that the standards have been met; QA/QC documentation of these results; the location and frequency of tests and comparison of test results with the Performance Standards in a tabular form;

4. documentation of the Pre-Final and Final Site Inspections, including description of the deficient construction items identified during these inspections and documentation of the final resolution of all deficient items;

5. certification that the Remedial Action was performed consistent with the ROD, the terms and conditions of the Settlement Agreement and Consent Decree, this SOW, Remedial Design plans and specifications, and RD/RA Work Plan, and that the remedy is operational and functional;

6. schedule for remaining operation and maintenance activities including summary of the operation and maintenance program, and discussion of any problems/concerns; and

7. summary of project costs and their comparison with the original remedial action estimate, including the cost of any modifications during construction.

F. Discontinuance of Gas Collection and Thermal Treatment System

If, at any time after completion of the first Five-Year Review of the Remedial

Action, as required by CERCLA Section 121 (c) and any applicable regulations, the Performing Settling Defendants conclude that operation of the gas collection and thermal treatment system can be discontinued and the Performance Standards, including the Rhode Island Air Toxics Standards can continue to be met under open-vent conditions and the remedy is protective of human health and the environment, the Performing Settling Defendants shall submit to EPA a petition, with supporting data, requesting EPA's approval of the discontinuance of the operation of the gas collection and thermal treatment system. Such petition shall also include a Post-Operation Sampling and Analysis Plan, prepared in accordance with the requirements of Attachment 1, for monitoring compliance with the Cleanup Standards and demonstration of protectiveness after discontinuance of the operation of the gas collection and thermal treatment system. If EPA, after reasonable opportunity for review and comment by the State, approves the petition and the Sampling and Analysis Plan, EPA will notify the Performing Settling Defendants in writing, that the Performing Settling Defendants may discontinue operation of the gas collection and thermal treatment system. In such event, the Performing Settling Defendants shall continue the operation and maintenance, monitoring, reporting activities and other remedial activities according to the terms and schedules set forth in the Post Closure Operation and Maintenance Plan and the approved Post-Operation Sampling and Analysis Plan, which shall be deemed to be incorporated into the Post Closure Operation and Maintenance Plan.

In the event that EPA, after reasonable opportunity for review and comment by the State, determines that operation of the gas collection and thermal treatment system should not be discontinued, EPA will notify the Performing Settling Defendants of its determination and the reasons therefor, and the Performing Settling Defendants shall continue operation of the gas collection and thermal treatment system, in addition to all other obligations of operation, maintenance and monitoring set forth in the Post Closure Operation and Maintenance Plan. If EPA determines that the gas collection and thermal treatment system should not be discontinued, the Performing Settling Defendants may again petition EPA for discontinuance of the operation of the gas collection and thermal treatment system no sooner than after the next Five-Year Review.

G. Certification of Completion of the Remedial Action

Within ninety (90) days after the Performing Settling Defendants conclude that the Remedial Action has been fully performed, all Performance Standards have

been attained, including Performance Standards for air emissions under open-vent conditions for three consecutive years after discontinuance of the operation of the gas collection and thermal treatment system, and the remedy is protective, the Performing Settling Defendants shall schedule and conduct a pre-certification inspection. This inspection shall include representatives of the Performing Settling Defendants and their contractors, EPA and the State. Within thirty (30) days of the pre-certification inspection, the Performing Settling Defendants shall submit a report which provides the information necessary to demonstrate compliance with the Cleanup Standards and other Performance Standards and a statement of completion of the Remedial Action. EPA will review the Performing Settling Defendants' report and a statement of completion of the Remedial Action. If EPA, after reasonable opportunity for review and comment by the State, approves the report, the Performing Settling Defendants shall continue to implement the operation and maintenance, monitoring, reporting activities and other remedial activities according to the terms and schedules set forth in the Post Closure Operation and Maintenance Plan and the Sampling and Analysis Plan prepared in accordance with Section IV.C. of this SOW. If EPA, after reasonable opportunity for review and comment by the State, approves the report with modifications, the Performing Settling Defendants shall modify the Landfill closure as required by EPA and shall implement the operation and maintenance, monitoring, reporting activities and other remedial activities according to the terms and schedules of the Post Closure Operation and Maintenance Plan. In the event of disapproval, the Performing Settling Defendants shall design, construct, operate and maintain the Landfill closure in accordance with the terms and schedules as specified by EPA.

H. Certification of Completion of the Work

Within ninety (90) days after the Performing Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Performing Settling Defendants shall schedule and conduct a pre-certification inspection. This inspection shall include representatives of the Performing Settling Defendants and their contractors, EPA and the State. Within thirty (30) days of the pre-certification inspection, the Performing Settling Defendants shall submit a report which provides the information necessary to demonstrate compliance with the Cleanup Standards and Performance Standards and protectiveness of the remedy, and a statement of completion of the Work. EPA will review the Performing Settling Defendants' report and a statement of

completion of the Work. If EPA, after reasonable opportunity for review and comment by the State, approves of the report, EPA will so notify the Performing Settling Defendants. If EPA, after reasonable opportunity for review and comment by the State, approves the report with modifications, the Performing Settling Defendants shall modify the Landfill closure and gas collection and treatment system as required by EPA and shall implement the operation and maintenance, monitoring, reporting activities and other remedial activities according to the terms and schedules as modified. In the event of disapproval, the Performing Settling Defendants shall design, construct, operate and maintain the synthetic cover/slope stabilization alternative and thermal destruction gas treatment technology in accordance with the terms and schedules as specified by EPA.

I. Operation Modifications

If during operation of the gas collection and treatment system, Site conditions warrant modifications of the operations consistent with the National Contingency Plan, EPA or the Performing Settling Defendants may propose such modifications. After approval by EPA, after reasonable opportunity for review and comment by the State, the Performing Settling Defendants shall implement the modifications as approved or modified by EPA pursuant to Section XII of the Settlement Agreement and the Consent Decree .

VII. SCHEDULE AND SUBMITTALS FOR POSSIBLE FUTURE WORK

A. Additional Response Workplan and Submittals

If Additional Response Activities are required by EPA pursuant to Section VII of the Settlement Agreement and Consent Decree, within sixty (60) days (unless EPA determines that more time is necessary) from notification that the additional work is required, the Performing Settling Defendants shall submit to EPA a Work Plan for the Additional Response Activities.

B. Submittals for Future Additional Response Activities

Within thirty (30) days (unless EPA determines that more time is necessary) from EPA's approval or modification after submission to EPA by the Settling Defendants of

a Work Plan for the Additional Response Activities, the Performing Settling Defendants shall submit to EPA a Design Plan and Specifications for Implementation of the Additional Response Activities.

C. Implementation of Future Activities

In the event of approval or modification after submission to EPA by the Performing Settling Defendants of the Design Plan and Specifications for the Additional Response Activities, the Settling Defendants shall, within thirty (30) days of EPA's approval or modification, commence such Additional Response Activities according to the approved or modified Design Plan and Specifications for the Additional Response Activities. Within fifteen (15) days after the Performing Settling Defendants conclude that the Additional Response Activities have been fully performed, the Performing Settling Defendants shall schedule and conduct a Site Inspection. Within thirty (30) days (unless EPA determines that more time is necessary) of the Site Inspection, the Performing Settling Defendants shall submit a Report documenting completion of the Additional Response Activities for review and approval or modification by EPA, after reasonable opportunity for review and comment by the State.

VIII. EPA REVIEW OF PLANS, WORKPLANS, REPORTS AND OTHER ITEMS

All submissions by the Performing Settling Defendants of items which are required to be submitted to EPA pursuant to the Settlement Agreement and Consent Decree, this SOW, the RD/RA Workplan, Post Closure Operation and Maintenance Plan, and other Workplans and Plans, shall be governed by the requirements of the Settlement Agreement and Consent Decree, including but not limited to, Section XII of the Settlement Agreement and Consent Decree entitled "Submissions Requiring Agency Approval." After reviewing a submittal, if EPA determines, after reasonable opportunity for review and comment by the State, that additional information is needed, the Performing Settling Defendants shall provide the information as requested by EPA in accordance with the schedule established by EPA.

Settlement Agreement and Consent Decree

RD/RA Scope of Work
Landfill & Resource Recovery Site

ATTACHMENT 1

The purpose of this attachment is to outline the specific requirements of the Site Health and Safety Plan, the Quality Assurance and Quality Control Plans and the Sampling and Analysis Plans. These Plans as they apply to the Operation and Maintenance activities are included in the Post Closure Operation and Maintenance Plan.

A. SITE HEALTH AND SAFETY PLAN

A Site Health and Safety Plan (HSP) has been prepared as a Section of the RD/RA Workplan to address potential hazards to the field remedial team and the surrounding community potentially impacted by Site activities. This plan is and shall continue to be consistent with the applicable guidelines of EPA's Health and Safety Planning for Remedial Investigations under CERCLA (EPA/540/G-85/002, June 1985) and the requirements of the Occupational Safety and Health Administration (OSHA) Guidelines for Hazardous Waste Operations and Emergency Response Activities (interim final rule, 29 C.F.R. Part 1910 as amended. Federal Register Vol. 51, No. 244, December 19, 1986).

The plan shall continue to be adequate to assure the safety of the field team and the community during all activities conducted pursuant to the Settlement Agreement and Consent Decree. Contingency plans shall be developed to address situations which may likely impact the off-site community.

The Site Health and Safety Plan shall continue to address at a minimum the following items:

1. personal protective equipment requirements;
2. on-site monitoring equipment requirements;
3. safe working procedures specifications;
4. equipment decontamination procedures;
5. personnel decontamination procedures; and

6. special and emergency procedures, including contingency plans.

B. PROJECT ACTIVITIES QUALITY ASSURANCE/QUALITY CONTROL PLAN

Quality Assurance/Quality Control (QA/QC) Plans shall be prepared to specify the procedures to be used to insure that the technical specifications of the materials and equipment are met and to specify the procedures to be used in all sampling and analyses to insure that quality data is obtained. QA/QC Plans shall specify the procedures to be utilized to insure that the Performance Standards and technical specifications for upgrading the Landfill closure are met and shall be developed in accordance with OSWER Report No. EPA/530-SW-86-031, Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, and any future relevant guidance documents. In addition, QA/QC Plans shall specify the procedures to be followed to insure that the Performance Standards and technical specifications of the gas collection and treatment system are met. QA/QC Plans shall also specify the procedures to be used during all sampling and analysis necessary to evaluate the gas collection and treatment system. Finally, QA/QC Plans shall insure that quality data is obtained during all post-closure and operation and maintenance activities, and any required future additional work activities. The QA/QC plans shall be prepared in accordance with EPA guidance document QAMS-005/80 and Data Quality Objectives guidance documents EPA/540/G-87/003 and 004 (March 1987). At a minimum the following topics shall be addressed in the QA/QC Plans:

1. title page with provisions for signatures of principal investigators;

2. table of contents:

3. project description:

4. project organization and responsibility;

5. quality assurance objectives for measurement data, stated in terms of precision, accuracy, completeness, representativeness, correctness and comparability;

6. sampling procedures:

7. sample chain of custody;

8. field and analytical equipment, calibration procedures, references and frequency;

9. analytical procedures, which must be EPA approved, or equivalent methods;

10. data reduction, validation and reporting;

11. internal quality control checks and frequency;

12. quality assurance performance audits, system audits and frequency of implementation and non-conformance reports;

13. preventive maintenance procedures and schedules;

14. specific routine procedures to be used to assess the precision, accuracy and completeness of data and to assess specific measurement parameters involved;

15. corrective action; and

16. quality assurance reports.

C. SAMPLING AND ANALYTICAL PLAN

Sampling and Analytical Plans shall be developed to specify the procedures to be followed for all samples to be taken pursuant to the Settlement Agreement and Consent Decree, this SOW, the Post Closure Operation and Maintenance Plan and other Workplans and Plans, including, but not limited to, sampling air emissions and ambient air quality of the Landfill gas under open-vent conditions. Such Sampling and Analytical Plans at a minimum shall address the following:

1. objectives of the sampling effort;

2. type, location, rationale and construction specifications for placement of any proposed monitoring wells, well screens and borings;

3. type, quantity, frequency, and location of samples to be collected;

4. sampling methods to be used including any well sampling and evaluation procedures, provisions for split sampling, split spoon sampling, composite sampling, sampling preservation techniques, equipment needs and equipment cleaning and decontamination procedures, and field support requirements;

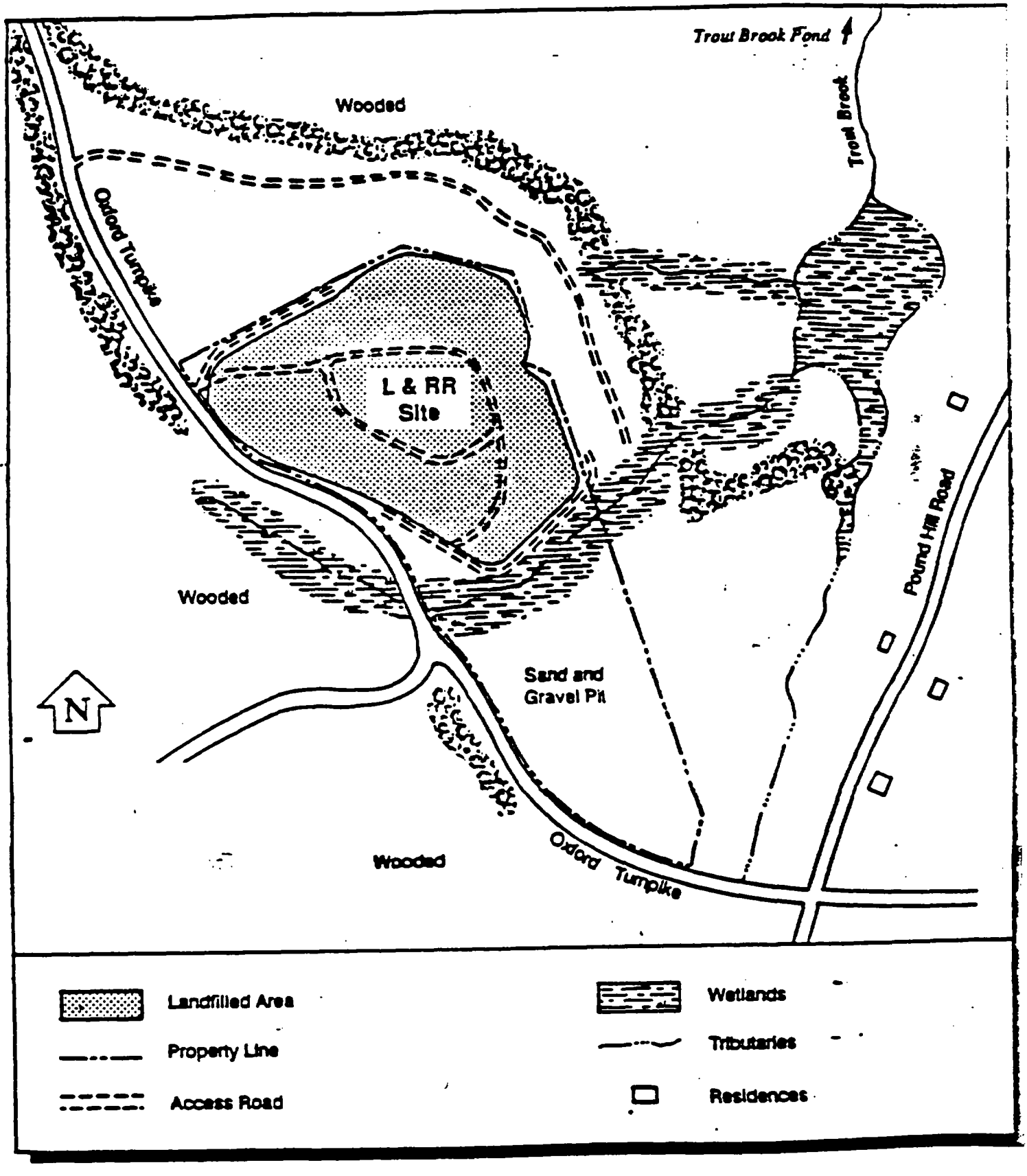
5. sample shipping and chain-of-custody procedures; and

6. type of analysis to be run on each sample including reference to appropriate EPA approved/specified analytical methods.

L&RR Settlement Agreement and Consent Decree:

Appendix C

Appendix C


Trout Brook Pond
Trout Brook
Wooded
Oxford Turnpike
L & RR Site
Wooded
Sand and Gravel Pit
Pound Hill Road
N
Wooded
Oxford Turnpike
Landfilled Area
Property Line
Access Road
Wetlands
Tributaries
Residences

L&RR Settlement Agreement and Consent Decree:

Appendix D

APPENDIX D

PERFORMING SETTLING DEFENDANTS

Avnet, Inc.

Boston Edison Company

CCL Custom Manufacturing, Inc.

Clean Harbors of Braintree

Corning Incorporated

General Dynamics Corporation

Olin Corporation

Polaroid Corporation

Stanley Bostich, Inc.

The Dexter Corporation

United Dominion Industries, Inc.

Waste Management of Massachusetts, Inc.

L&RR Settlement Agreement and Consent Decree:

Appendix E

APPENDIX E

OWNER SETTLING DEFENDANTS

David J. Wilson

Charles S. Wilson

Landfill & Resource Recovery, Inc.

Truk-Away of RI, Inc.

L&RR Settlement Agreement and Consent Decree:

Appendix F

APPENDIX F

STATE OF RHODE ISLAND
PROVIDENCE, S.C.

SUPERIOR COURT

LANDFILL & RESOURCE RECOVERY, INC.,

V.

RHODE ISLAND DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT

NOTICE OF RELATED SETTLEMENT AGREEMENT AND CONSENT DECREE RE: LANDFILL & RESOURCE RECOVERY, INC. SITE

NOTICE IS HEREBY GIVEN of the proposed Settlement Agreement and Consent Decree ("Consent Decree") lodged in the United States District Court for the District of Rhode Island in Civil Action No. 96-*, on *, 1996. The proposed Consent Decree will resolve claims of the United States and the State of Rhode Island against the defendants, including Landfill & Resource Recovery, Inc., Truk-Away of R.I., Inc., Charles Wilson and David Wilson alleged in the governments' complaints. The governments' complaints allege claims under Sections 106(b)(1)(United States only) and 107 of the Comprehensive Environmental Response Compensation and Liability Act, as amended ("CERCLA"), 42 U.S.C. §§ 9606(b)(1) and 9607, and state law (state only) relating to the release and threatened release of hazardous substances at the Landfill & Resource Recovery, Inc. Superfund Site located in North Smithfield, Rhode Island ("Site").

The Site is the subject of this pending action in this Court. Landfill & Resource Recovery, Inc. v. Rhode Island Department of Environmental Management, C.A. PC81-4091. The Parties to this action also are parties to the Consent Decree.

If entered, the proposed Consent Decree will require the settling defendants to pay a sum in settlement of the governments' claims, perform certain response actions at the Site, grant access to the Site and other necessary parcels of property, and implement institutional controls. The proposed Consent Decree includes covenants not to sue by the governments and the defendants subject to limited reservations. The proposed Consent Decree also requires the Parties to this action to file a joint motion to vacate certain orders and to dismiss with prejudice this action.

Consistent with 42 U.S.C. § 9622, and 28 C.F.R. § 50.7, the proposed Consent Decree will be published in the Federal Register and there will be a thirty day period for public comment on the settlement. Thereafter, any comments will be considered by the governments and if appropriate, they will seek entry of the Consent Decree.

The Parties hereby notify the Court that if the proposed Consent Decree is entered it will resolve the disputes concerning the Site that are the subject of this action. Accordingly, if the proposed Consent Decree is entered, the Parties intend to file the necessary papers to have certain orders of this Court vacated and to have the matter dismissed with prejudice.

No action is required of the Court at this time.

Respectfully submitted,

APPENDIX F

STATE OF RHODE ISLAND
PROVIDENCE, SC.

SUPERIOR COURT

LANDFILL & RESOURCE RECOVERY, INC.

vs.

C.A. No.: 81-4091

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OF THE STATE OF RHODE ISLAND and TIMOTHY R.E. KEENEY in his capacity as Director of the Department of Environmental Management of the State of Rhode Island; Town of North Smithfield, Intervenor

JOINT MOTION TO MODIFY EXISTING COURT ORDERS

Now come the Department of Environmental Management of the State of Rhode Island, Timothy R.E. Keeney in his capacity as Director of the Department of Environmental Management of the State of Rhode Island, and Landfill & Resource Recovery, Inc., and respectfully and jointly request this Honorable Court to modify the existing Court Orders per the Order attached.

Respectfully submitted,

Claude A. Cote, Esquire
State Bar No. 2410
Department of Environmental Management
235 Promenade Street, 4th Fl.
Providence, Rhode Island 02908
(401) 277-6607
(401) 274-7337 (fax)

Counsel for:
Department of Environmental Management of the State of Rhode Island and Timothy R.E. Keeney in his capacity as Director of the Department of Environmental Management of the State of Rhode Island

_____, Esquire
State Bar No. _____
Providence, Rhode Island 02903
(401) _____
(401) _____ (fax)

Counsel for:
Landfill & Resource Recovery, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on _____, 1996, I forwarded a copy of the within document by first class mail, postage prepaid, to the following counsel of record:

_____

Louis V. Jackvony, III
Jackvony & Jackvony
101 Dyer Street, Suite 302
Providence, RI 02903-3908

STATE OF RHODE ISLAND
PROVIDENCE, SC.

SUPERIOR COURT

LANDFILL & RESOURCE RECOVERY, INC.	:	
	:	
vs.	:	C.A. No.: 81-4091
	:	
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OF THE STATE OF RHODE ISLAND and TIMOTHY R.E. KEENEY in his capacity as Director of the Department of Environmental Management of the State of Rhode Island, Town of North Smithfield, Intervenor	:	

ORDER

This matter came on to be heard on the _____ day of _____, 1996 before the Honorable _____ on the DEM, Director, and L&RR's "Joint Motion to Modify Existing Court Order," and after hearing thereon, and with the consent of the DEM, Director and L&RR, it is hereby

ORDERED, ADJUDGED AND DECREED

1. The DEM, Director and L&RR's "Joint Motion to Modify Existing Court Order" be and hereby is granted.

2. In view of the fact that on _____, 1996 a Federal Settlement Agreement and Consent Decree was entered by the Federal District Court for the District of Rhode Island in C.A. No. _____ (the "Federal Decree") governing the remedy for the Landfill & Resource Recovery site (the "Site"), all parties are hereby relieved of all responsibilities and duties pursuant to the Court Order of July 13, 1983, the Court Order of November 22, 1988 and the April 10, 1990 Agreement in furtherance of the Court Order of July 13, 1983.

3. The remedy and remediation work performed and to be performed at the Site embodied in the Federal Decree are hereby adopted by and consented to by the DEM, the Director and L&RR.

4. The Plaintiff shall be responsible for the implementations and maintenance of the remedy in strict accordance with the statement of work attached to the Federal Decree .

5. The parties acknowledge that, subject to the provisions, agreements and covenants not to sue set forth in the Federal Decree, the Site shall remain subject to the jurisdiction of the laws and regulations of the State of Rhode Island to the extent not inconsistent with the Federal Decree.

6. The Plaintiff shall be responsible for stipulated penalties for the work yet to be performed at the Site. For purposes of this paragraph, this shall mean all work and tasks required by Paragraph 8 and Section X of the Federal Decree. The Statement of Work and any plan or document approved by EPA as part of the remedy for the site within the specified time schedules established by and approved under the Federal Decree as identified below:

Penalty Per Violation Per Day	Period of Non-Compliance
$1,000.00	1st through 14th days
$2,000.00	15th day and beyond

Penalties shall be assessed and disputes shall be resolved pursuant to Paragraph 71 of the Federal Decree .

7. Plaintiff must comply with all appropriate and applicable federal and state laws, rules and regulations and requirements.

8. All monies currently held in the escrow account established with Fleet Bank pursuant to Paragraph 2(b) on Page 4 of the July 13, 1983 Court Order shall be paid over to

DEM according to Paragraph B of Appendix G of the Federal Decree , the escrow account shall be closed, the DEM, Director and L&RR shall sign all papers necessary or convenient, and L&RR and its shareholders, officers, employees and agents hereby release their claims to such funds.

9. Any administrative or court orders, decisions, rights, notices and proceedings previously superseded, replaced, withdrawn, vacated or extinguished shall so remain, and all pending motions, petitions and proceedings be and hereby are dismissed with prejudice.

10. All reservations of rights by any and all of the parties in the Federal Decree, including, but not limited to, those set forth in Paragraphs 88, 89, 90, 91, 92, 93, 94, 96 and 101(a) of the Federal Decree referenced in Paragraph 2 above shall remain unaffected by this Order.

11. Pursuant to the foregoing, this civil action is dismissed.

ENTERED as an Order of this Court on the _____ day of _____ 1996.

ENTER: PER ORDER:

_____ _____

Dated: _____

Presented by:

_____ _____

Claude A. Cote, Esquire
State Bar No. 2410
Department of Environmental Management
235 Promenade Street, 4th Floor
Providence, RI 02908
(401) 277-6607
(401) 274-7337 *fax*

, Esquire
State Bar No. _____
Providence, RI 02903
(401)
(401) *fax*

Counsel for:
Department of Environmental Management of the State of Rhode Island and Timothy R.E. Keeney in his capacity as Director of the Department of Environmental Management of the State of Rhode Island

Counsel for:
Landfill & Resource Recovery, Inc.

CERTIFICATION OF SERVICE

I hereby certify that on the _____ day of _____ 1996, I forwarded a copy of the within Order to Attorney Louis V. Jackvony III, Jackvony & Jackvony, 101 Dyer Street, Suite 302, Providence, RI 02903-3908, by regular mail, postage prepaid.

_____

L&RR Settlement Agreement and Consent Decree:

Appendix G

APPENDIX G

PAYMENT PROCEDURES AND ALLOCATION

1. Except as provided in Paragraph 2.A of this Appendix G, within 75 days of the effective date of this Settlement Agreement and Consent Decree, Performing Settling Defendants and Owner Settling Defendants jointly shall:

A. Pay to the United States $675,000, plus Interest, in reimbursement of Past Response Costs, by Electronic Funds transfer ("EFT" or wire transfer) to the U.S. Department of Justice lockbox bank, referencing the U.S.A.O. file number, the EPA Region and Site/Spill ID #01-30, and DOJ case number 90-11-2-449-B. Payment shall be made in accordance with instructions provided by the United States to the Performing Settling Defendants after lodging of the Settlement Agreement and Consent Decree. Payment by EFT must be received at the DOJ lockbox bank by 4:00 P.M. (Eastern Time) to be credited on that day. Performing Settling Defendants shall send written notice of the EFT(s) to the United States as specified in Section XXVIII (Notices and Submissions) and to the Regional Hearing Clerk, EPA Region I, J.F.K. Federal Building, Boston, MA 02203. Interest on all payments under this Appendix G shall begin to accrue as of September 30, 1996.

B. Pay to the State $200,000, plus Interest. Payment shall include: (1) any remaining funds in the trust fund that has been established pursuant to State court order in connection with Landfill & Resource Recovery, Inc. v. Department of Environmental

Management of the State of Rhode Island, C.A. No. 81-4091 (R.I. Sup. Ct.), and that are released to the State from the trust fund pursuant to the actions required by Paragraph 98.c of the Settlement Agreement and Consent Decree; plus (2) a certified check or checks for the difference between the amount, if any, that is released to the State from the trust fund pursuant to the actions required by Paragraph 98.c of the Settlement Agreement and Consent Decree and the sum of $200,000 plus Interest made payable to "General Treasurer" (for deposit in the Environmental Response Fund), in reimbursement of Past Response Costs incurred by the State. The Performing Settling Defendants shall send the certified check(s) to Office of the Director, RIDEM, 235 Promenade Street, Providence, RI 02908.

C. Pay to the United States $400,000, plus Interest in satisfaction of the United States' claim for civil penalties, pursuant to CERCLA Section 106(b)(1), for the Performing Settling Defendants' and Owner Settling Defendants' alleged noncompliance with the Unilateral Administrative Order through the date of lodging of this Settlement Agreement and Consent Decree. Such payment shall be made in the form of a certified check or checks made payable to "EPA Hazardous Substances Superfund" and referencing the EPA Region and Site/Spill ID # 01-30, and DOJ case number 90-11-2-449B. The Performing Settling Defendants shall forward the certified check(s) to EPA Region I, Attn: Superfund Accounting, P.O. Box 360197M, Pittsburgh, PA 15251 and shall send copies of the check and transmittal letter to the

United States as specified in Section XXVIII (Notices and Submissions).

D. Pay to the United States $200,000, plus Interest for Natural Resource Damages, in the form of a certified check made payable to "U.S. Department of the Interior" and referencing Account Number 14X5198, DOJ number 90-11-2-449B, the USAO number, and the name of the Site, the Landfill & Resource Recovery, Inc. Site. The Performing Settling Defendants and the Owner Settling Defendants shall forward the certified check by certified mail, return receipt requested to:

Chief, Division of Finance
U.S. Fish and Wildlife Service
4401 North Fairfax Drive
Arlington, VA 22203

with a copy to:

Mark Barash
Office of the Regional Solicitor
U.S. Department of Interior
One Gateway Center, Suite 612
Newton Corner, MA 02158-2868

and shall reference that the payment is for Natural Resource Damages for resources under the trusteeship of the Department of Interior ("DOI") and the State of Rhode Island with respect to the L&RR Site (except groundwater). Copies of the check paid pursuant to this subparagraph and any accompanying transmittal letter shall be sent to the United States and the State of Rhode Island as provided in Section XXVIII(Notices and Submittals).

DOI shall hold the funds recovered for Natural Resource Damages in an interest bearing account in its Natural Resource Damage Assessment and Restoration Fund, and such monies together

with all interest accrued thereon shall only be spent for restoration and to reimburse past trustee assessment costs associated with the Site which expenditures shall be made in conformity with the provisions and procedures set forth in a Memorandum of Agreement to be entered into between DOI and the State of Rhode Island.

2. Supplemental Environmental Project ("SEP")

A. In accordance with Section XVIII of the Settlement Agreement and Consent Decree, a supplemental environmental project shall be performed that is comprised of acquisition of title to real property and/or conservation easements on real property in Rhode Island and located within or relating to the Blackstone River Valley National Heritage Corridor ("Corridor"). Performing Settling Defendants and Owner Settling Defendants shall implement this SEP through funding an escrow account to finance the acquisition of appropriate interests in real property. On or before January 7, 1997, Performing Settling Defendants and Owner Settling Defendants shall place into an interest bearing escrow account (the "Escrow"), $525,000 plus Interest. The funds deposited in the Escrow and all interest earned on such funds shall be used after entry solely to acquire real property and conservation easements on real property in Rhode Island exclusively for the purposes of: creating new wetlands; protecting or enhancing existing wetlands; or protecting, restoring and improving wildlife habitat area involving wetlands within or relating to the Corridor consistent

with the objectives, values and purposes of the Blackstone River Valley Heritage Corridor Commission Act ("Act"), P.L. 99-647, 100 Stat. 3625, Section XVIII of the Settlement Agreement and Consent Decree and this Paragraph 2 of Appendix G. Upon the written approval of the United States through the Department of Justice, Performing Settling Defendants shall disburse Escrow monies in the approved amounts to the Rhode Island Department of Environmental Management's ("RIDEM") Division of Planning and Development to acquire the real property and/or conservation easements on real property consistent with this Appendix G. Other than for failure to timely fund the Escrow or to timely disburse funds from the Escrow, the Settling Defendants shall not be liable for stipulated penalties in connection with Paragraph 2.A, 2.B and 2.C of this Appendix G.

B. It is the expectation that: (1) within 90 days of entry of the Settlement Agreement and Consent Decree, title to a portion of the certain parcel of real property of approximately 38 acres known as the Lonsdale Drive-In located in Lincoln, Rhode Island will be acquired by and conveyed to the State of Rhode Island by RIDEM through its Division of Planning and Development and (2) conservation easements will be placed on such land. If: (1) EPA, DOI and RIDEM determine that acquisition of interests in the Lonsdale Drive-In property cannot be accomplished for a financially reasonable purchase price; (2) EPA, DOI, and RIDEM otherwise agree that such property should not be purchased; (3) or if any funds remain in the Escrow after the purchase of

interests in the Lonsdale Drive-In property, then upon approval of EPA and DOI, RIDEM through its Division of Planning and Development, shall purchase interests in other real property and/or conservation easements on real property located in the Corridor ("alternate environmental projects") from the list attached hereto as Attachment 1 until the full amount of the Escrow has been expended. RIDEM shall provide written monthly reports on the progress of implementing the SEP to the Department of Justice and EPA at the addresses set forth in Section XXVIII of the Settlement Agreement and Consent Decree and to DOI at the address set forth in Paragraph 1.D of this Appendix G. Such reports shall be submitted on or before the tenth day of each calendar month beginning the month after entry. The State shall use good faith efforts to complete the requirements of this SEP within twelve months of entry of the Settlement Agreement and Consent Decree.

C. The State of Rhode Island shall ensure that any property interests, including conservation easements, acquired pursuant to this SEP shall be maintained in perpetuity in a manner consistent with the objectives of the Act and the Settlement Agreement and Consent Decree. The State will hold title to such property interests; the State may transfer such interests to another public or private non-profit entity, but only if such entity agrees in writing to maintain the interest in a manner consistent with the objectives of the Act and the Settlement Agreement and Consent Decree and the deed(s)

transferring such interests provides for such conditions established on the use of the property and only after written approval of EPA and DOI of the transfer and the content of such deed(s).

D. The Performing Settling Defendants and Owner Settling Defendants certify that the payment of the funds to the Escrow and implementation of the SEP is not required under any state, local or federal law, regulation or order and that the SEP is not to be implemented pursuant to the terms of another consent decree or agreement to which the Performing Settling Defendants and Owner Settling Defendants are parties. The Performing Settling Defendants and Owner Settling Defendants further certify that they have not agreed to undertake or receive credit for undertaking, and are not presently negotiating to undertake the SEP described in this Appendix G and Section XVIII of the Settlement Agreement and Consent Decree in any other enforcement action.

E. Performing Settling Defendants and Owner Settling Defendants agree that any public or private statements, oral or written, making reference to the SEP required under the Settlement Agreement and Consent Decree shall include the following language: "This project was undertaken in connection with the settlement of a civil action brought by the United States on behalf of the United States Environmental Protection Agency."

APPENDIX G
ATTACHMENT 1

List of alternative parcels:

	Location	Acreage	Plat/Lot
*	North Smithfield Slatersville, near Main Street/Rte. 5	approx. 10,000 sq. ft.	part of 4/34A
*	Lincoln Limerock area	21 acres	24/40
*	Lincoln Limerock area	125 acres	24/3
*	Lincoln Limerock area	25 acres	24/85
*	other parcels approved by RIDEM, EPA and DOI		

L&RR Settlement Agreement and Consent Decree:

Appendix H

APPENDIX H
OVERSIGHT COSTS

Year Ending December 31	
1996	$12,000
1997	48,000
1998	44,000
1999	44,000
2000	50,000
2001	40,000
2002	40,000
2003	40,000
2004	40,000
2005	50,000
2006	36,000
2007	36,000
2008	36,000
2009	36,000
2010	45,000
2011	36,000
2012	36,000
2013	36,000
2014	36,000
2015	45,000
2016	36,000
2017	36,000
2018	36,000
2019	36,000
2020	45,000
2021	36,000
2022	36,000
2023	36,000
2024	36,000
2025	45,000

Beginning with calendar year 1997, each of the sums above will be adjusted to account for inflation/deflation. For purposes of calculating the adjustment, all oversight costs incurred within a calendar year shall be assumed to have occurred on December 31 of the calendar year. The Boston Consumer Price Index ("BCPI") as reported by the Federal Reserve Bank of Boston for the period ending on December 31 shall serve as the index for determining the inflation/deflation rate for that calendar year. In the event that the BCPI is no longer available, then the Parties shall agree upon a comparable inflation/deflation index and shall use

the index for the purposes of this Appendix H. Any replacement index shall be selected with a preference for tracing regional (i.e., New England) inflation/deflation rates.

L&RR Settlement Agreement and Consent Decree:

Appendix I

APPENDIX I

Notice of Consent Decree

Notice of Rights and Obligations, including Access and Declaration of Covenants, Conditions, and Restrictions under the Consent Decree in United States and the State of Rhode Island v. Landfill & Resource Recovery, Inc., et al.

NOTICE IS HEREBY GIVEN of the Settlement Agreement and Consent Decree ("Consent Decree") entered into by the United States of America and the State of Rhode Island, as Plaintiffs and as benefitted parties under state law, and Landfill & Resource Recovery, Inc., Truk-Away of R.I., Inc., Charles Wilson and David Wilson, among others, as Defendants, in Civil Action No. 96-_____ filed in the United States District Court in the District of Rhode Island. The Consent Decree was entered on _____, 1996. The Consent Decree addresses, among other matters, the following:

1. The Owner Settling Defendants' grant of a right of access on the Owner Settling Defendants' property to the United States, the State of Rhode Island, and the United States' and the State's authorized representatives, and the Performing Settling Defendants;

2. Imposition of covenants, conditions, and restrictions restricting certain uses of the Owner Settling Defendants' property;

3. Payment of a sum in settlement of the Defendants' liabilities to the United States on behalf of the United States Environmental Protection Agency ("EPA") under Sections 106(b)(1) and 107 of CERCLA, 42 U.S.C. §§ 9606(b)(1) and 9607, and to the State under Section 107 of CERCLA, 42 U.S.C. § 9607, R.I.G.L. Chs. 46-13.1, 23-19.1, 42.17.1, 23-3, and 23-18.9;

4. Performance by Owner Settling Defendants and Performing Settling Defendants of response actions to implement and maintain the Record of Decision for the Site to address the release and threatened release of hazardous substances at the Site;

5. Conditions on the Owner Settling Defendants' transfer of the Owner Settling Defendants' property, including Paragraph 8 of the Consent Decree which provides, in pertinent part, for prior notice to the United States and the State of the proposed transfer and for notice to the prospective transferee of the Consent Decree (including the access provisions) and covenants, conditions and restrictions on the property required pursuant to the Consent Decree. Any instrument of conveyance shall contain a notice that the property is the subject of the Consent Decree and is subject to covenants, conditions and restrictions.

6. Covenants not to sue; and

7. Reservations of rights.

Copies of the Consent Decree may be obtained by writing:

U. S. Environmental Protection Agency
Office of Regional Counsel
J.F.K. Federal Building (HSV-CAN5)
Boston, MA 02203-2211

Reference: Superfund Docket No. 01-30

L&RR Settlement Agreement and Consent Decree:

Appendix J

LICENSE AGREEMENT BETWEEN LANDFILL & RESOURCE RECOVERY, INC. AND RECYCLING OF R. I., INC. (COLLECTIVELY THE "LICENSORS") AND THE MEMBERS OF THE LANDFILL & RESOURCE RECOVERY SITE GROUP (COLLECTIVELY THE "LICENSEES") REGARDING PORTIONS OF LOTS 9, 9A, 10, 11, 67, 68, AND 3 ON ASSESSOR'S PLAT 7 IN NORTH SMITHFIELD, RHODE ISLAND

Whereas:

1. In North Smithfield, Rhode Island, there is a Superfund Site known as the Landfill & Resource Recovery, Inc. Superfund Site ("L&RR Site");

2. On or about June 29, 1990, the Regional Administrator for Region I of the United States Environmental Protection Agency ("EPA") issued a purported administrative order ("Order") against various Respondents ("Respondents") with respect to alleged property damage at and around the L&RR Site;

3. A copy of the Order was recorded on September 24, 1990 in the land evidence records of the Town of North Smithfield in Book 130, Page 776;

4. In response, various of the Respondents with others have organized themselves into two groups:

(a) One group consisting of the MEMBERS of the "Landfill & Resource Recovery Site Group" pursuant to a "Landfill & Resource Recovery Site Participation Agreement" made as of December 14, 1990, and

(b) Another group consisting of Landfill & Resource Recovery, Inc., Truk-Away of R.I., Inc., Charles S. Wilson, and David J. Wilson, collectively constituting the "TRUK-AWAY GROUP;"

5. The two groups, namely the MEMBERS of the Landfill & Resource Recovery Site Group and the TRUK-AWAY GROUP, have entered into a "Settlement Agreement" effective as of January 17, 1991; and

6. Pursuant to Paragraph 3(F) of the Settlement Agreement, the TRUK-AWAY GROUP is required to "cause to be delivered to the MEMBERS" such "deeds, rights-of-way, easements, licenses, and other instruments in recordable form providing" any "access, institutional controls, rights to obtain fill, and other rights necessary to carry out response actions related to the L&RR Site, upon Lots: 9 (subject to conditions imposed by the Court in Rhode Island civil actions 81-4091 and 84-2467), 9A, 10, 11, 67, 68 (other than that part of Lot 68 consisting of approximately three acres [actually 2.755 acres] and located at the southeast corner of Lot 68 on Pound Hill Road and more particularly

described as Exhibit A attached hereto and made a part hereof) on plat 7 and that portion of Lot 3 on plat 7 within 500 feet of Oxford Road" (hereinafter collectively referred to as the "Premises");

NOW THEREFORE, it is hereby agreed as follows:

1. Landfill & Resource Recovery, Inc. and Recycling of R. I., Inc. (formerly known as D. C. Land Company of Rhode Island) (collectively the "Licensors") to the extent of their respective property interests and subject to any easements of record hereby give permission to the MEMBERS of the Landfill & Resource Recovery Site Group ("Licensees") and their respective authorized representatives, including employees, agents, contractors, subcontractors, and consultants, to enter upon, have access to, and obtain available fill from the Premises as provided in Paragraph 3(F) of the Settlement Agreement subject to the rights reserved to Licensors therein and to otherwise conduct any Work (as defined in the Participation Agreement), testing or investigation on the Premises including the erection and maintenance of buildings, utilities and other structures all for the purpose of carrying out response actions relating to the L&RR Site as specified in Paragraph 3(F) of the Settlement Agreement, as it may be amended from time to time. Licensors' rights to obtain fill from the Premises during the term of this License Agreement shall be limited to those rights specifically set forth

in Paragraph 3(F) of the Settlement Agreement. During the term of this License Agreement, Licensors shall not interfere with Licensees' exercise of rights granted hereunder or grant or convey any interest or other rights in the Premises to third parties which will materially interfere with the rights granted to Licensees hereunder; provided, however, that Licensors shall have the authority to grant rights to governmental agencies to allow monitoring and oversight of the activities conducted by Licensees, to allow actions by such governmental agencies for any purposes relating to the Order (including but not limited to those set forth in paragraph 119 of the Order), and to allow any other actions which such governmental agencies may order or to which they may be entitled. Licensees shall also have the right to exercise any rights to use the right of way reserved for the benefit of Licensors in the deed to Blackstone Valley Electric Company recorded at Book 80, Page 622.

2. Throughout the term of this License Agreement, Licensees shall have the right and authority to use all roadways and utilities on the Premises and to install additional roadways and utilities at, upon or below the Premises as required in order to complete the Work contemplated by the Participation Agreement. Licensees shall be responsible for the maintenance and repair of any such utilities and roadways installed by Licensees but only during the period when Licensees are on the Premises; provided nothing herein shall impose upon Licensors any obligation to

maintain or repair any such utilities or roadways. Any costs incurred by Licensees in initially installing and subsequently maintaining and repairing such roadways and utilities shall be treated as Shared Costs, as that term is defined in the Participation Agreement and as referenced in paragraph 3(D) of the Settlement Agreement. Licensors shall remain solely responsible for all other costs of owning and maintaining the Premises during the term of this License Agreement, including real estate taxes, except as otherwise provided in the Settlement Agreement; provided, however, that any portion of the real estate taxes which is solely attributable (as evidenced by the records of the assessing authority) to the value of buildings, structures, or utilities erected on the Premises by Licensees shall be treated as a Shared Cost.

3. Licensees agree to slope all sharp and precipitous banks of any sand and gravel excavations done by Licensees pursuant to Paragraph 3(F) of the Settlement Agreement, so as to reduce any hazard; but Licensees shall not be required to fill up any such sand or gravel excavations.

4. All Work conducted on the Premises by the Licensees under the terms of this License Agreement shall be performed by qualified contractors and done in accord with sound engineering practice.

5. This License Agreement shall be irrevocable and shall continue in effect until the earlier to occur of the following: (a) the date upon which this License Agreement is terminated or modified in writing by the mutual agreement of the parties; or (b) the date upon which the Settlement Agreement is terminated in writing by the mutual agreement of the parties thereto. Nothing in this License Agreement is intended to vary the underlying rights, obligations and remedies of the parties under the Settlement Agreement.

6. Licensors represent and warrant that they have full power and authority to execute this License Agreement and that the agreements contained herein are legally binding upon them in accordance with their terms.

7. This License Agreement shall be recorded with the land evidence records of the Town of North Smithfield, Rhode Island, is intended to run with the land and shall be binding upon and inure to the benefit of the successors and assigns of the parties. The parties agree and acknowledge that Licensees will be irreparably harmed by any breach of this License Agreement by Licensors and that monetary damages will not sufficiently compensate Licensees in the event of a breach. Licensors agree that in the event of a breach of any covenant or condition hereof, Licensees shall, in addition to other remedies provided by law, be entitled to seek restraint of such violation by

injunction or to seek specific performance of this License Agreement.

8. Nothing herein shall be construed as an assumption on the part of Licensees of any obligation or liability for complying with the terms of any order relating to the Premises issued by any court of the State of Rhode Island.

9. Those executing this agreement on behalf of the Licensees represent and warrant that they have full power and authority to execute this License Agreement on behalf of the Licensees and that the agreements contained herein are legally binding upon Licensees.

Agreed to effective as of the 10th day of April, 1991.

LANDFILL & RESOURCE RECOVERY, INC.

By Charles R. Wilson
President

ATTEST:

By Charles P. Wilson
Secretary

RECYCLING OF R. I., INC.

By _____
President

ATTEST:

By _____
Secretary

MEMBERS OF THE LANDFILL & RESOURCE RECOVERY SITE GROUP

Acting through its Executive Committee consisting of:

Clean Harbors of Braintree, Inc.

By _____
David M. Jones, its attorney

Corning Incorporated

By _____
Colburn T. Cherney, its attorney

Boston Edison Company

By _____
Roy P. Giarrusso, Esq., its attorney

STATE OF RHODE ISLAND
COUNTY OF PROVIDENCE

I, the undersigned, a Notary Public in and for said State and County, do hereby certify that before me personally appeared Charles S. Wilson whose name as President of Landfill & Resource Recovery, Inc. is signed to the foregoing License Agreement, and who is known to me and known by me to be such officer, and

acknowledged before me on this day under oath, that, being informed of the contents of said License Agreement he, in his capacity as such officer and with full authority, executed the same as his free act and deed and as the free act and deed of Landfill & Resource Recovery, Inc.

Given under my hand and seal of office this 22nd day of August, 1991.

Notary Public
My Commission expires: 6/30/91

STATE OF RHODE ISLAND
COUNTY OF PROVIDENCE

I, the undersigned, a Notary Public in and for said State and County, do hereby certify that before me personally appeared Charles S. Wilson whose name as President of Recycling of R. I., Inc. is signed to the foregoing License Agreement, and who is known to me and known by me to be such officer, and acknowledged before me on this day under oath, that, being informed of the contents of said License Agreement he, in his capacity as such officer and with full authority, executed the same as his free act and deed and as the free act and deed of Recycling of R. I., Inc.

Given under my hand and seal of office this 22nd day of August, 1991.

Notary Public
My Commission expires: 6/23/91

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF

I, the undersigned, a Notary Public in and for said Commonwealth and County, do hereby certify that before me personally appeared David M. Jones, attorney for Clean Harbors of Braintree, Inc., and acknowledged before me on this day under oath, that, being informed of the contents of said License

Agreement he, in his capacity as such attorney and with full authority, executed the same as his free act and deed and as the free act and deed of Clean Harbors of Braintree, Inc. as a Member of the Executive Committee of the Landfill & Resource Recovery Site Group on behalf of the Members of the Landfill & Resource Recovery Site Group.

Given under my hand and seal of office this 7th day of May, 1991.

Notary Public
My commission expires: Feb. 25, 1994

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF Suffolk

I, the undersigned, a Notary Public in and for said Commonwealth and County, do hereby certify that before me personally appeared Colburn T. Cherney, attorney for Corning Incorporated, and acknowledged before me on this day under oath, that, being informed of the contents of said License Agreement he, in his capacity as such attorney and with full authority, executed the same as his free act and deed and as the free act and deed of Corning Incorporated as a Member of the Executive Committee of the Landfill & Resource Recovery Site Group on behalf of the Members of the Landfill & Resource Recovery Site Group.

Given under my hand and seal of office this 30th day of April, 1991.

Notary Public
My commission expires:
May 8, 1992

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF

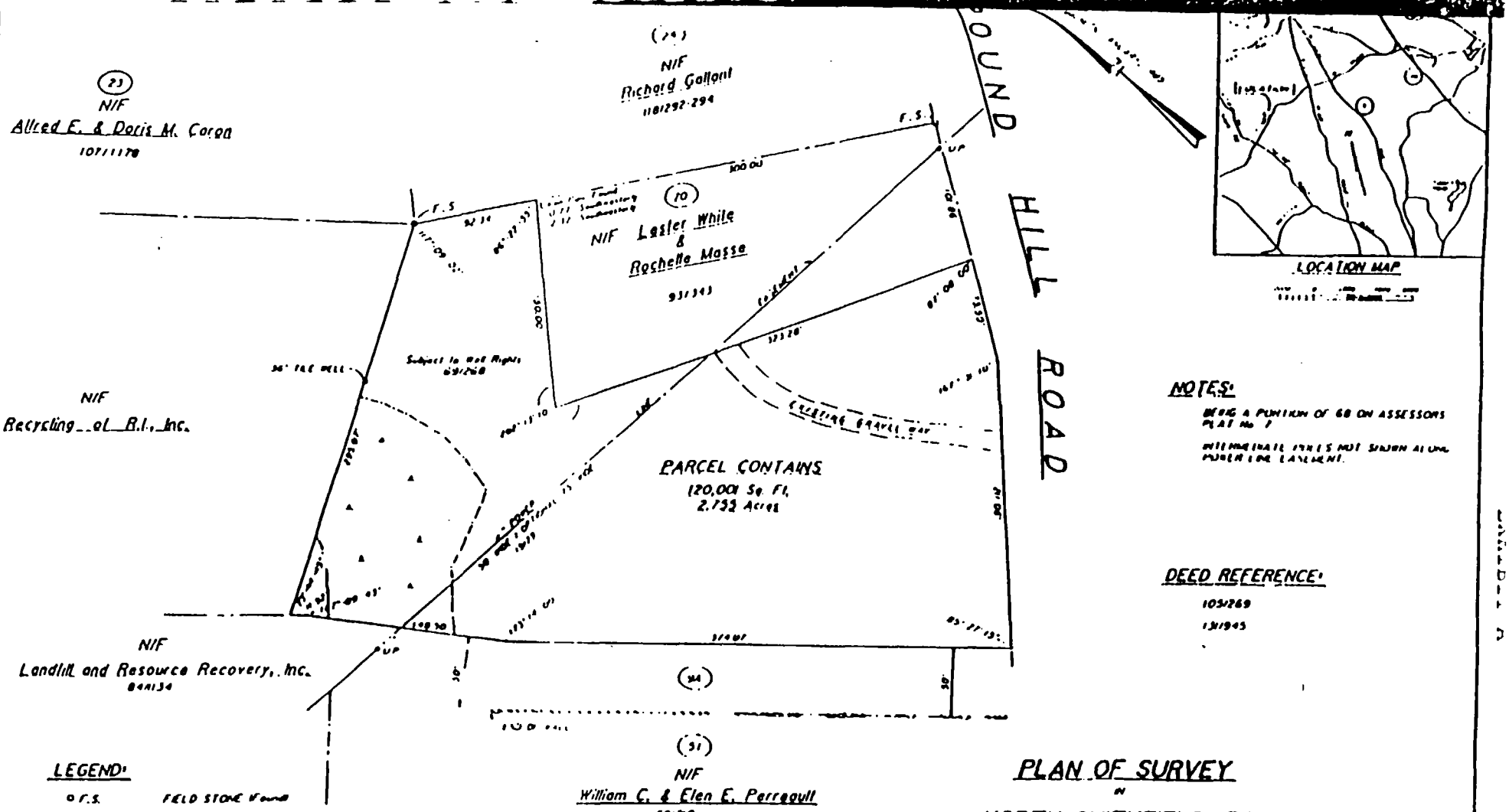
I, the undersigned, a Notary Public in and for said Commonwealth and County, do hereby certify that before me personally appeared Roy P. Giarrusso, attorney for Boston Edison Company, and acknowledged before me on this day under oath, that, being informed of the contents of said License Agreement he, in

his capacity as such attorney and with full authority, executed the same as his free act and deed and as the free act and deed of Boston Edison Company as a Member of the Executive Committee of the Landfill & Resource Recovery Site Group on behalf of the Members of the Landfill & Resource Recovery Site Group.

Given under my hand and seal of office this 2nd day of May, 1991.

Notary Public
My commission expires: 2/2/95

L&RR\
LICENSAG.BF



NOTES:

1. BEING A PORTION OF 68 ON ASSESSORS PLAT No. 7
2. INTERMEDIATE LOTS NOT SHOWN ALONG POWER LINE EASEMENT.

DEED REFERENCE:

105/269
131/945

LEGEND:

○ F.S.	FIELD STONE Found
I.P.	IRON PIPE Found
[.....]	APPROXIMATE EDGE OF WET AREA
U.P.	UTILITY POLE
(51)	LOT NUMBER ON ASSESSORS PLAT 7
93/343	DEED BOOK 93 PAGE 343
———	STONE WALL AND REMAINS OF STONE WALL

PLAN OF SURVEY

IN

NORTH SMITHFIELD, R.I.

FOR

RECYCLING OF R.I. INC.

PREPARED BY

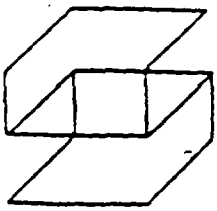
STANLEY ENGINEERING, INC.

SCALE: 1"=50'

FEBRUARY, 1991

DRAWING No. 1

STANLEY ENGINEERING, INC.
33 ALEXANDER AVENUE
EAST PROVIDENCE, RI 02914



DRAWING NO. 1

That certain tract or parcel of land with all buildings and improvements thereon situated on the westerly side of Pound Hill Road in the Town of North Smithfield, County of Providence, State of Rhode Island and is bounded and described as follows:

Beginning at a northeasterly corner of the herein described parcel, said corner being the southeasterly corner of land now or formerly belonging to Lester White and Rochelle Masse, said corner also being located one hundred one and eighty-six hundredths feet (101.86') southwesterly from a field stone bound located at the northeasterly corner of said White and Masse land as measured along the westerly street line of Pound Hill Road;

thence running southwesterly along the westerly street line of Pound Hill Road for a distance of seventy-three and fifty hundredths feet (73.50') to an angle;

thence turning an interior angle of 167°-31'-10" and running southwesterly along the westerly street line of Pound Hill Road for a distance of two hundred eleven and six hundredths feet (211.06') to land now or formerly belonging to Landfill and Resource Recovery, Inc. for a corner;

thence turning an interior angle of 85°-27'-15" and running northwesterly for a distance of three hundred seventy-four and seven hundredths feet (374.07') to an angle;

thence turning an interior angle of 173°-14'-00" and running northwesterly for a distance of one hundred forty-eight and fifty hundredths feet (148.50') to an angle;

thence turning an interior angle of 187°-09'-43" and running northwesterly for a distance of eleven and ninety-two hundredths feet (11.92') to other land belonging to this Grantor for a corner;

the last three described courses bounding southwesterly on said Landfill and Resource land;

thence turning an interior angle of 73°-44'-45" and running northeasterly bounding northwesterly on said other land of this Grantor for a distance of two hundred ninety-five and seven hundredth feet (295.07') to the southwesterly corner of land now or formerly belonging to Richard Gallant and a field stone bound for a corner;

thence turning an interior angle of 117°-09'-02" and running southeasterly bounding northeasterly on said Gallant land for a distance of ninety-two and thirty-four hundredths feet (92.34') to aforesaid White and Masse land for a corner;

thence turning an interior angle of 86°-22'-55" and running southwesterly bounding southeasterly on said White and Masse land for a distance of one hundred fifty and no hundredths feet (150.00') to a corner;

thence turning an interior angle of 282°-13'-10" and running southeasterly bounding northeasterly on said White and Masse land for a distance of three hundred twenty-three and twenty-eight hundredths feet (323.28') to the point and place of beginning;

the last described line forming an interior angle of 87°-08'-00" with the first described line.

Said parcel contains 2.755 acres.

Said parcel is subject to a power line easement granted to Rhode Island Power Transmisssion Company.

Said parcel is subject to Well Rights as set forth in Deed Book 69 Page 268 in The Land Evidence of North Smithfield.

SUBORDINATION AGREEMENT

Truk-Away of R.I., Inc., a corporation organized and existing under the laws of the State of Rhode Island hereby subordinates all of its right, title and interest in and to that certain Mortgage Deed dated April 1, 1980 by and between Landfill & Resource Recovery, Inc., as mortgagor, and Truk-Away of R.I., Inc., as mortgagee, duly recorded with the land evidence records of the Town of North Smithfield in Book 94, Page 1145, to that certain License Agreement dated as of April 10, 1991 by and between Landfill & Resource Recovery, Inc. and Recycling of R.I., Inc. as Licensors and Members of the Landfill & Resource Recovery Site Group as Licensees, duly recorded and filed herewith (the "License") as if for all purposes the License had been executed, delivered and recorded prior to the Mortgage Deed.

Executed as a sealed instrument effective as of this 10th day of April, 1991.

Truk-Away of R.I., Inc.

By: Charles F Wilson
its President

STATE OF RHODE ISLAND
COUNTY OF

In Warwick on the 22nd day of April, 1991 before me personally appeared Charles F Wilson of Truk-Away of R.I., Inc., to me known and known by me to be the party executing the foregoing instrument, and he acknowledged said instrument, by him executed, to be his free act and deed in his said capacity and the free act and deed of Truk-Away of R.I., Inc.

Thomas Macaccaro
Notary Public
6/20/91

JEMSUBOR.LR

WAIVER OF NOTICE

SPECIAL MEETING OF DIRECTORS

OF

LANDFILL & RESOURCE RECOVERY, INC.

We, the undersigned, being all the Directors of Landfill & Resource Recovery, Inc., do hereby waive notice of a special meeting of Directors to be held at the law offices of Dean N. Temkin, 10 Dorrance Street, Providence, Rhode Island 02903 at 9:00 a.m. on April 4, 1991, for the purpose of authorizing the Corporation to enter into certain license agreements with the Members of the Landfill & Resource Recovery Site Participation Agreement Group and with the United States and/or the EPA and to transact such other business as may be properly brought before said meeting.

David J. Wilson

Charles S. Wilson

MINUTES

SPECIAL MEETING OF DIRECTORS

OF

LANDFILL & RESOURCE RECOVERY, INC.

Pursuant to the foregoing Waiver of Notice signed by all the Directors of Landfill & Resource Recovery, Inc., a special meeting of the Directors was held at the law offices of Dean N. Temkin, 10 Dorrance Street, Providence, Rhode Island 02903 at 9:00 a.m. on April 4, 1991.

The following, being all the Directors, were present:

David J. Wilson
Charles S. Wilson

Upon nominations duly made and seconded, it was unanimously

VOTED: To authorize and direct the Corporation to enter into a License Agreement, substantially in the form attached, with the Members of the Landfill & Resource Recovery Site Participation Agreement Group; authorize Charles S. Wilson and/or David J. Wilson to amend the wording of the License Agreement as either sees fit; and authorize Charles S. Wilson and/or David J. Wilson signing singly to execute the License Agreement on behalf of the Corporation and to execute any related documents necessary or convenient.

Upon motion duly made and seconded, it was unanimously

VOTED: To authorize the Corporation to enter into a license or comparable agreement with the United States and/or the EPA to comply with any requirements of the EPA's purported Section 106 Order dated June 29, 1990 as amended, including without limitation Paragraph 119; authorize Charles S. Wilson and/or David J. Wilson to amend the wording of such agreement as either sees fit; and authorize Charles S. Wilson and/or David J. Wilson signing singly to execute such agreement on behalf of the Corporation and to execute any related documents necessary or convenient.

There being no further business to come before the meeting, it was unanimously

VOTED: To adjourn.

Charles S. Wilson, Secretary

CORPORAT\
L&RR1991.SP2

WAIVER OF NOTICE

SPECIAL MEETING OF DIRECTORS

OF

TRUK-AWAY OF R.I., INC.

We, the undersigned, being all the Directors of Truk-Away of R.I., Inc., do hereby waive notice of a special meeting of Directors to be held at the law offices of Dean N. Temkin, 10 Dorrance Street, Providence, Rhode Island 02903 at 9:30 a.m. on April 4, 1991, for the purpose of authorizing the Corporation to enter into a Subordination Agreement with the MEMBERS of the Landfill & Resource Recovery Site Participation Agreement Group and to transact such other business as may be properly brought before said meeting.

David J. Wilson

Charles S. Wilson

MINUTES

SPECIAL MEETING OF DIRECTORS

OF

TRUK-AWAY OF R.I., INC.

Pursuant to the foregoing Waiver of Notice signed by all the Directors of Truk-Away of R.I., Inc., a special meeting of the Directors was held at the law offices of Dean N. Temkin, 10 Dorrance Street, Providence, Rhode Island 02903 at 9:30 a.m. on April 4, 1991.

The following, being all the Directors, were present:

David J. Wilson
Charles S. Wilson

Upon motion duly made by Charles S. Wilson and duly seconded by David J. Wilson, it was unanimously

VOTED: To authorize and direct the Corporation to enter into a Subordination Agreement, substantially in the form attached, with the Members of the Landfill & Resource Recovery Site Participation Agreement Group; authorize Charles S. Wilson and/or David J. Wilson to amend the wording of the Subordination Agreement as either sees fit; and authorize Charles S. Wilson and/or David J. Wilson signing singly to execute the Subordination Agreement on behalf of the Corporation and to execute any related documents necessary or convenient.

There being no further business to come before the meeting, it was unanimously

VOTED: To adjourn.

Charles S. Wilson

Charles S. Wilson, Secretary

CORPORAT\
TRUK1991.SP2

WAIVER OF NOTICE

SPECIAL MEETING OF DIRECTORS

OF

TRUK-AWAY OF R.I., INC.

We, the undersigned, being all the Directors of Truk-Away of R.I., Inc., do hereby waive notice of a special meeting of Directors to be held at the law offices of Dean N. Temkin, 10 Dorrance Street, Providence, Rhode Island 02903 at 9:30 a.m. on April 4, 1991, for the purpose of authorizing the Corporation to enter into a Subordination Agreement with the MEMBERS of the Landfill & Resource Recovery Site Participation Agreement Group and to transact such other business as may be properly brought before said meeting.

David J. Wilson

Charles S. Wilson

There being no further business to come before the meeting, it was unanimously

VOTED: To adjourn.

Charles S. Wilson, Secretary

CORPORAT\
RECY1991.SP1

L&RR Settlement Agreement and Consent Decree:

Appendix K

Lots 9 and 9A

That certain tract of land situated in the town of North Smithfield, County of Providence and State of Rhode Island, with the buildings and improvements thereon, between the northwesterly line of Pound Hill Road and the easterly line of Oxford Road, bounded and described as follows:

Beginning at the northeasterly corner of said tract at a point in the northwesterly line of said Pound Hill Road, three hundred eighty-six and 58/100 (386.58) feet southwesterly of the southeasterly corner of land now or lately of George and Minnie C. Moore and being the southeasterly corner of land now or lately of Benjamin C. Chester as described in deed recorded in Book 64 at page 587 of the records of land evidence in said Town of North Smithfield; thence S 47° 36' W a distance of fifty (50) feet to a corner of wall and with said Pound Hill Road; thence N 40° 56' W three hundred fourteen and 8/10 (314.8) feet with wall to a turn; thence N 40° 33' W seventy and 16/100 (70.16) feet to end of wall; thence N 34° 10' W one hundred twenty and 82/100 (120.82) feet to a post; thence S 39° 42' W five hundred two and 5/10 (502.5) feet to a turn; thence S 50° 15' W two hundred sixty-five and 15/100 (265.15) feet to a corner; thence N 4° 53' one hundred twenty-six and 86/100 (126.86) feet to a corner; thence S 39° 41' W eighty-three and 39/100 (83.39) feet to a turn; thence S 55° 9' W sixty-four and 24/100 (64.24) feet to a barway; thence S 43° 40' W eleven and 99/100 (11.99) feet across said barway; thence S 26° 06' W two hundred twenty-nine and 96/100 (229.96) feet to a turn; thence S 35° 26' W one hundred forty and 09/100 (140.09) feet to a turn; thence S 33° 37' W one hundred twenty-eight and 83/100 (128.83) feet to a turn; thence S 39° 42' W sixty-one and 47/100 (61.47) feet to a turn; thence S 51° 5' E fifty-seven and 31/100 (57.31) feet to the easterly line of Oxford Road, the last fourteen courses and distances are with land now or formerly of Thomas U. and Ruth J. Michaud; thence N 50° 51' W two hundred thirteen and 18/100 (213.18) feet to a turn; thence N 40° 17' 30" W one hundred ninety-one and 8/10 (191.8) feet to a turn; thence N 18° 41' 30" W two hundred and 82/100 (290.82) feet to a turn; thence N 1° 47' W one hundred eight and 16/100 (108.16) feet to a turn; thence N 4° 56' E two hundred fifty-two and 42/100 (252.42) feet to an iron pipe, the last five courses and distances are with the easterly line of Oxford Road; thence N 46° 44' E eighty and 72/100 (80.72) feet to an iron pipe; thence N 36° 10' E two hundred three and 6/10 (203.6) feet to an iron pipe; thence N 34° 3' E one hundred seventy-seven and 56/100 (177.56) feet to a stone bound; thence N 38° 3' E sixty-six and 7/10 (66.7) feet to a stone bound; thence N 36° 9' W two hundred seventy-three and 5/100 (273.05) feet to a stone bound; thence N 49° 22' W two hundred thirty-seven and 83/100 (237.83) feet to a stone bound; thence N 41° 4' W two hundred sixteen and 4/10 (216.4) feet to a stone bound in the easterly line of Oxford Road, the last seven courses and distances are with land of the heirs of Amanda M. Smith, now or lately; thence N 34° 42' 30"W one hundred thirty-two and 23/100 (132.23) feet to a turn; thence N 52° 7' W one hundred sixty-three and 41/100 (163.41) feet to a turn; thence

N 30° 21' W two hundred seventy-five and 94/100 (275.94) feet to a turn; thence N 13° 49' W two hundred thirty-three and 97/100 (233.97) feet to a stone bound, the last four courses and distances are with the easterly line of Oxford Road; thence N 86° 29' E with land of Chester H. Maynard Jr. eleven hundred sixty-eight and 5/10 (1168.5) feet to a stone bound, a corner also of the Kendall Company; thence S 39° 52' 30" E to the northwest corner of the tract of land conveyed to said Benjamin C. Chester above-referred to; thence S 50° 7' 54" W bounding on said Chester land a distance of three hundred thirteen and 5/10 (313.5) feet to the southwesterly corner of said Chester land; thence turning and running along the southwesterly line of said Chester land a distance in all of sixteen hundred three and 45/100 (1603.45) feet, more or less, to the northwesterly line of said Pound Hill Road at the point and place of beginning.

And, however being bounded and described being the same premises conveyed to Russell M. Lapham and Helen A. Lapham by deed of Louis A. Webster and Georgia Webster by deed dated July 22, 1958, and recorded in the Records of Land Evidence in said Town of North Smithfield in Book 62, at Page 424, EXCEPTING THEREFROM those parcels conveyed to said Benjamin C. Chester and to Eugene L. Bissonnette, et ux, said last conveyance being recorded in said records in Book 69 at Page 269; reference to said deeds and conveyances being specifically incorporated herein.

AND EXCEPTING further that part of said above-described premises as conveyed to Blackstone Valley Gas and Electric Company by deed dated December 15, 1971, and recorded in said land records in Book 80 at Page 622, BUT RESERVING the right of way to travel over that portion as fully described in said deed.

This conveyance is subject to the right of way granted to Rhode Island Power Transmission Co. as appears of record and insofar as the same is presently applicable to the property herein described. Subject to easements of record.

Lot 10

A certain parcel of land situated on the northeasterly side of the Old Oxford Road sometimes known as the Old Forge Road in The Town of North Smithfield, County of Providence and State of Rhode Island, comprising lot numbered 10 on the North Smithfield Assessors Plat numbered 7 which is particularly bounded and described as follows; viz:

Beginning at a stone bound set in the northeasterly line of said road at the most southerly corner of a parcel of land which was conveyed by Herbert E. Maynard to Chester H. Maynard, Jr. by deed dated February 13, 1940 and recorded in the Registry of Deeds in said North Smithfield in Deed Book 42 at Page 67, which is numbered 11 on said Assessors Plat 7 and at the most westerly corner of said lot numbered 10 on Assessors Plat numbered 7; thence N. 73° 32' 40" E., bounding northwesterly on said Maynard land, numbered 11 as aforesaid, eleven hundred nineteen and 85/100

(1119.85) feet to another stone bound at land now or formerly of Alice A. King; thence S. 13° 16' 48" E., bounding northeasterly on said King land, two hundred fourteen and 41/100 (214.41) feet to another stone bound set at junctions of lands of said King, with land of Paul and Estelle Hale, land now or formerly of Augustus M. Ballou and the land hereby described; thence S. 73° 32' 40" W., bounding southeasterly on said Ballou land, about eleven hundred twenty (1120) feet to said road; thence N. 16° 11' 20" W., bounding southwesterly on said road, about two hundred fourteen and 41/100 (214.41) feet to the stone bound at the point of beginning.

However otherwise bounded and described, meaning and intending hereby to describe and convey, and hereby conveying the same premises as were conveyed to these grantors by deed of Chester H. Maynard, Jr. dated December 20, 1947 and recorded in the North Smithfield Registry of Deeds in Deed Book 50 at Page 116. See also Providence County Superior Court Civil Action File No. 75-2406.

Lot 11

Also a certain tract of land containing twelve acres more or less, situated in said North Smithfield on Pine Plain so-called, bounded as follows:

Beginning at stake and stone at the southwest corner of the premises on the east side of the highway; thence N. 83° E. 68 rods and 10 links to stake bounded on the south by land now or formerly of Henry S. Mansfield; thence No. 1° W. 29 rods and 6 links to a stone set in the ground bounded by land now or formerly of J. and W. Slater; thence S. 83° W. about 70 rods by said Mansfield's land to stone at highway; thence with highway S. 5-3/4° E. 28 rods and 18 links to place of beginning.

However otherwise bounded and described, meaning and intending hereby to describe and convey, and hereby conveying the same premises as were conveyed to Chester H. Maynard, Jr. by deed of Herbert E. Maynard dated February 13, 1940 and recorded in the said North Smithfield Registry of Deeds in Deed Book 42 at Page 67.

EXCEPTING THEREFROM, that parcel consisting of 8.549 acres conveyed to Blackstone Valley Electric Company by deed dated September 18, 1970 and recorded in Book 78 at Page 958.

Lot 67 (and 3)

That certain tract of land, situated in the Towns of North Smithfield and Burrillville, in the County of Providence, and State of Rhode Island and being bounded and described as set forth on Exhibit A attached hereto and specifically incorporated herein.

It is distinctly understood that as to that portion of the tract of land being within the

(1119.85) feet to another stone bound at land now or formerly of Alice A. King; thence S. 13° 16' 48" E., bounding northeasterly on said King land, two hundred fourteen and 41/100 (214.41) feet to another stone bound set at junctions of lands of said King, with land of Paul and Estelle Hale, land now or formerly of Augustus M. Ballou and the land hereby described; thence S. 73° 32' 40" W., bounding southeasterly on said Ballou land, about eleven hundred twenty (1120) feet to said road; thence N. 16° 11' 20" W., bounding southwesterly on said road, about two hundred fourteen and 41/100 (214.41) feet to the stone bound at the point of beginning.

However otherwise bounded and described, meaning and intending hereby to describe and convey, and hereby conveying the same premises as were conveyed to these grantors by deed of Chester H. Maynard, Jr. dated December 20, 1947 and recorded in the North Smithfield Registry of Deeds in Deed Book 50 at Page 116. See also Providence County Superior Court Civil Action File No. 75-2406.

Lot 11

Also a certain tract of land containing twelve acres more or less, situated in said North Smithfield on Pine Plain so-called, bounded as follows:

Beginning at stake and stone at the southwest corner of the premises on the east side of the highway; thence N. 83° E. 68 rods and 10 links to stake bounded on the south by land now or formerly of Henry S. Mansfield; thence No. 1° W. 29 rods and 6 links to a stone set in the ground bounded by land now or formerly of J. and W. Slater; thence S. 83° W. about 70 rods by said Mansfield's land to stone at highway; thence with highway S. 5-3/4° E. 28 rods and 18 links to place of beginning.

However otherwise bounded and described, meaning and intending hereby to describe and convey, and hereby conveying the same premises as were conveyed to Chester H. Maynard, Jr. by deed of Herbert E. Maynard dated February 13, 1940 and recorded in the said North Smithfield Registry of Deeds in Deed Book 42 at Page 67.

EXCEPTING THEREFROM, that parcel consisting of 8.549 acres conveyed to Blackstone Valley Electric Company by deed dated September 18, 1970 and recorded in Book 78 at Page 958.

Lot 67 (and 3)

That certain tract of land, situated in the Towns of North Smithfield and Burrillville, in the County of Providence, and State of Rhode Island and being bounded and described as set forth on Exhibit A attached hereto and specifically incorporated herein.

It is distinctly understood that as to that portion of the tract of land being within the

Town of Burrillville and referred to in that certain Complaint filed in the office of the Clerk of the Superior Court for the Counties of Providence and Bristol in Civil Action numbered 75-2757 wherein Robert R. Gamache and his wife are the plaintiffs and this grantor is the defendant, the grantor does not, by this grant and under this deed, make any warranty or covenant.

This conveyance is made subject to taxes assessed December 31, 1978 by the Tax Assessors of the Towns of North Smithfield and Burrillville.

That certain tract or parcel of land, together with the buildings and improvements thereon, situated in the Town of North Smithfield, County of Providence, and State of Rhode Island, and a small portion in the Town of Burrillville, in said County and State, bounded and described as follows:

Beginning at a point in the easterly line of Oxford Road, in said Town of North Smithfield, at a pipe, being a bound of land now or formerly of Russell M. Lapham; thence N 46° 44' E a distance of eighty and 72/100 (80.72) feet to a pipe; thence N 36° 10' E two hundred three and 6/10 (203.6) feet to a pipe; thence N 34° 03' E one hundred seventy-seven and 56/100 (177.56) feet to a stone bound; thence N. 38° 03' E sixty-six and 2/10 (66.2) feet to a stone bound; thence N 36° 09' W two hundred seventy-three and 5/10 (273.5) feet to a stone bound; thence N 49° 22' W two hundred thirty-seven and 85/100 (237.85) feet to a stone bound; thence N 41° 04' W two hundred sixteen and 4/10 216.4) feet to a pipe in the easterly line of Oxford Road, all of said courses bounding on land now or formerly of said Russell M. Lapham; thence southerly along the easterly line of Oxford Road twenty-nine (29) feet to a point; thence crossing said Oxford Road to a corner of wall; thence in a general westerly direction crossing a brook a distance of three hundred fifty (350) feet to the corner of a wall; thence turning an interior angle of 230° 35' a distance of one hundred (100) feet, more or less; thence turning an interior angle of 181° 25' a distance of forty-two (42) feet; thence turning an interior angle of 164° 50' a distance of three hundred seventeen (317) feet to a turn in the wall; thence turning an interior angle of 161° 50' a distance of two hundred forty-eight (248) feet to the corner of the wall; thence turning an interior angle of 83° 20' a distance of two hundred fourteen and 5/10 (214.5) feet to corner of wall; thence turning an interior angle of 290° 35' a distance of one thousand eight hundred forty-five (1,845) feet to a stone bound; said last-described courses bounding on land now or formerly of George M. Vien in part and in part on land now or formerly of Anthony Tasca and said last course crossing over into the Town of Burrillville; thence turning and running in a general southerly and southwesterly direction a distance of approximately sixty-two (62) feet to the east bank of the Slatersville upper reservoir, also referred to as Slater's Reservoir; thence southerly along the east bank of said Reservoir a distance of approximately five hundred (500) feet to a stake which is approximately twenty-six (26) feet north of the easement hereinafter referred to; thence turning and running in a general westerly direction

bounding on land now or lately of T. E. McLaughlin a distance of one hundred fifty (150) feet, more or less, to land now or lately of James P. Harring; thence turning and running in a general southerly and southeasterly direction along the flowage line of Tarklin River, bounding westerly on said Harring land to a stone bound; thence continuing in a southeasterly direction bounding westerly on land now or lately of Allan Fardie a distance of five hundred twenty-five (525) feet to a stake; thence turning and running in a general southwesterly direction sixty and 5/10 (60.5) feet to a heap of stones at land now or lately of James Cardi; thence turning and running southerly, bounding westerly on said Cardi land a distance of one hundred seventy (170) feet to a heap of stones on the side of a maple stub; thence turning and running easterly, bounding southerly on said Cardi land a distance of one hundred ninety-two and 5/10 (192.5) feet to an angle iron; thence continuing a distance of two hundred fifty (250) feet to an angle iron; thence continuing a distance of one thousand six hundred (1,600) feet to the corner of a wall, bounding southeasterly on land of one Pizza; thence turning an interior angle of 286° 35' and running southerly, bounding westerly on said Pizza land and along a wall three hundred twenty-seven and 5/10 (327.5) feet to the corner of wall; thence turning an interior angle of 93° 15' and along a wall a distance of two hundred ninety-five (295) feet to the corner of a wall; thence turning an interior angle of 190° and running along a fence a distance of four hundred fifteen (415) feet to the westerly line of Oxford Road at the end of a wall and bounding southerly on land now or lately of Everett Morey; thence running northerly and northeasterly along the westerly line of Oxford Road a distance of six hundred thirty (630) feet to a point opposite the point and place of beginning; thence crossing said Oxford Road to the easterly side thereof at the point and place of beginning.

Said above-described tract or parcel of land being the same as described in prior title deeds as follows:

That certain lot or tract of land, with all the buildings and improvements thereon, situated in the northwesterly part of the Town of North Smithfield, county of Providence and State of Rhode Island, and known as the Homestead Estate of the late Dennis Ballou, and bounded and described as follows:

On the north by land formerly owned by Otis Tifft, on the east by land now or formerly of the heirs of James Busher, on the south by land now or formerly of Daniel Mowry, and on the west by the Slater's Reservoir, so-called, and containing, by estimation, in the whole lot about ninety (90) acres.

BEING the same premises identified in the Tax Assessor's Records of the Town of North Smithfield as Plat 7, Lots 3 and 67.

Also, one other tract of land situated in the Town of Burrillville, in said County and State, containing, by estimation, three (3) acres, more or less, being the same property

conveyed to Amanda M. Ballou by deed from William A. Bradley dated June 26, 1869, and recorded in the Smithfield Records of Deeds Book 46, Page 60, and meaning and intending hereby to convey the whole of said premises as described herein.

This conveyance is made subject to an easement of record to the Rhode Island Power Transmission Co. by deed dated October 27, 1914, and recorded in the Records of Land Evidence in the Town of North Smithfield in Book 19 at Page 27.

Lot 68

A certain tract or parcel of land, with buildings and improvements on the northwesterly side of Pound Hill Road in the Town of Smithfield, County of Providence, and State of Rhode Island, bounded and described as follows:

BEGINNING at a point in the northwesterly line of Pound Hill Road at a corner of land now or lately of Landfill & Resource Recovery, Inc. ("Landfill"); thence northwesterly, bounded southwesterly by said Landfill land, a distance of three hundred seventy-four and 7/100 (374.07) feet to a point; thence turning an interior angle of 173°-14'-00", bounded southwesterly by said Landfill land, and running northwesterly a distance of one hundred forty-eight and 50/100 (148.50) feet to a point; thence turning an interior angle of 187°-09'-43" and running northwesterly, bounded southwesterly in part by said Landfill land, in part by land now or lately of Blackstone Valley Electric Company ("Blackstone"), and in part by other land now or lately of Landfill, a distance of one thousand one hundred sixty and 81/100 (1160.81) feet to a point; thence turning an interior angle of 88°-35'-00" and running northeasterly, bounded northwesterly in part by said Landfill land and in part by said Blackstone land, a distance three hundred thirteen and 50/100 (313.50) feet to a point; thence turning an interior angle of 90°-00'-00" running southeasterly, bounded northeasterly in part by said Blackstone land and in part by land now or lately of Alfred E. Caron and wife, a distance of one thousand two hundred twenty-four and 14/100 (1224.14) feet to a fieldstone bound at land now or lately of George R. Moore and wife; thence turning an interior angle of 192°-18'-25" and running southeasterly, bounded northeasterly by said Moore land, a distance of ninety-two and 34/100 (92.34) feet to land now or lately of Lester White and Rochelle Masse; thence turning an interior angle of 86°-22'-55" and running southwesterly, bounded southeasterly by said last named land, a distance of one hundred fifty and NO/100 (150.00) feet to a point; thence turning an interior angle of 282°-13'-10" and running northeasterly, bounded northwesterly by said last named land, a distance of three hundred twenty-three and 28/100 (323.28) feet to said Pound Hill road; thence turning an interior angle of 87°-08'-00" and running southeasterly, bounded northeasterly by said Pound Hill Road, a distance of seventy-three and 50/100 (73.50) feet to a point; thence turning an interior angle of 167°-31'-10" and running southeasterly, bounded northeasterly by said Pound Hill road, a distance of two hundred eleven and 6/100 (211.06) feet to the point of

beginning, said last course herein described. Containing 474,611 square feet or 10.896 acres of land by calculation. Or however otherwise the same may be bounded and described.